ECLIPSE PHASE

The Roleplaying Game of Transhuman Conspiracy and Horror

CATALYST game labs

Your mind is software. *Program it.*

Your body is a shell. *Change it.*

Death is a disease. *Cure it.*

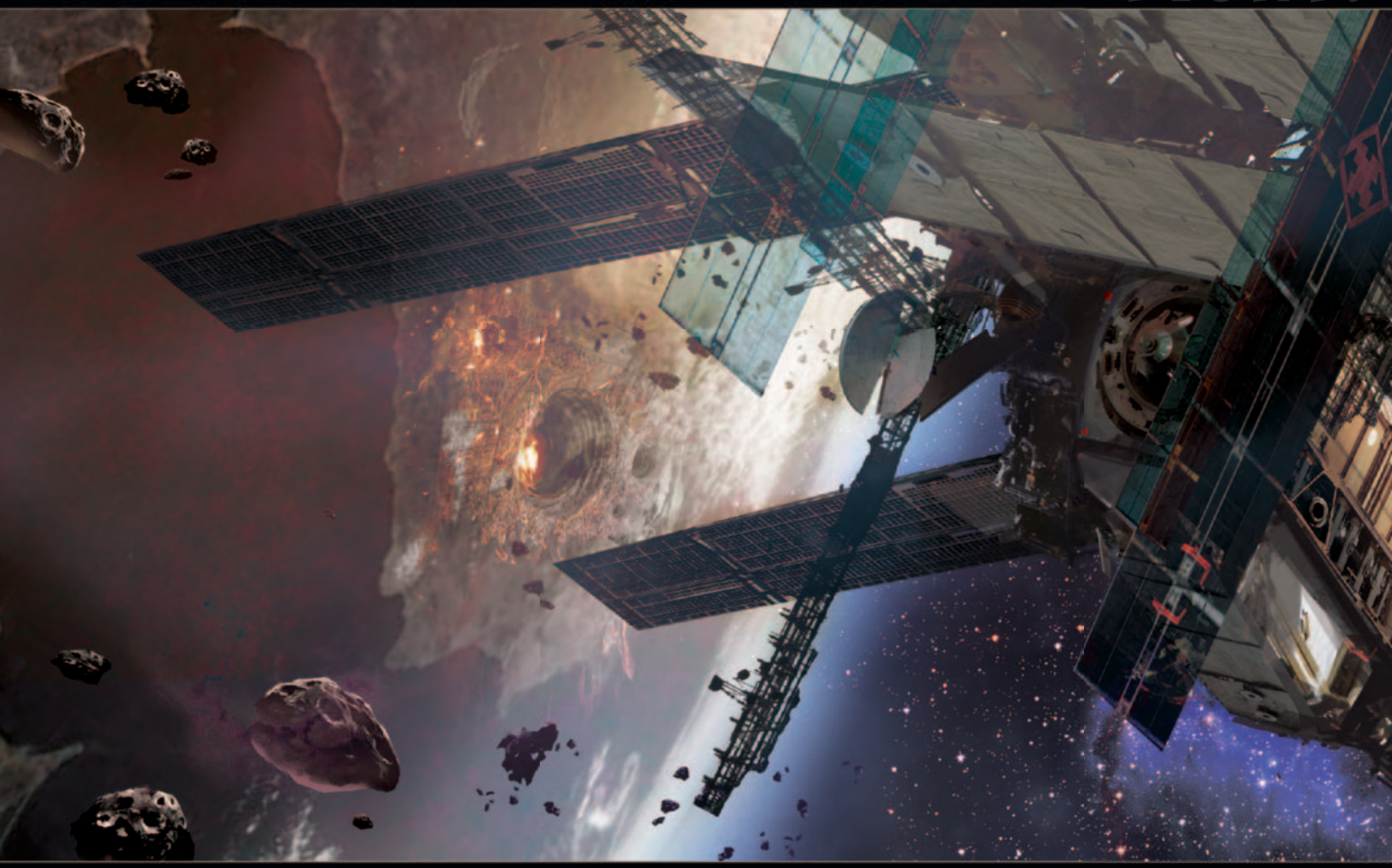
Extinction is approaching. *Fight it.*

PROGRAM.

CHANGE.

CURE.

FIGHT.



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PROGRAM.

CHANGE.

CURE.

FIGHT.

LACK 6
ENTER THE SINGULARITY ... 16
STARTING OUT 18
What Is A Roleplaying Game? 18
What is Transhumanism? 18
Post-apocalyptic, Conspiracy, and Horror Themes 19
But How Do You Actually Play? 20
What Do Players Do? 22
Where Does It Take Place? 24
Ego vs. Morph 24
Where To Go From Here? 24
Terminology 25
A TIME OF ECLIPSE 30
A PEOPLE'S HISTORY OF AN UNFORTUNATE UNIVERSE 32
Eclipse Phase Timeline 37
THE SOLAR SYSTEM AFTER THE FALL 38
TRANSHUMANITY 38
Inequality 38
Clades and Separation 39
First Contact: The Factors 40
CULTURE AND SOCIETY 41
The Longing For Earth 41
Nostalgia Jewelry 41
Fear and Paranoia 42
An Exsurgent Threat? 42
Real and Social Distance 43
Singularity Seekers 43
The Rise of Cultural Regions 44
Cultural Experimentation 44
Gender, Sexuality, and Relationships 45
The Diversity of Habitats 45
TECHNOLOGY 45
Living With Infotech 46
Opening Pandora's Gate 46
Going Beyond the Known 47
Muses 47
Attitudes Toward AGIs 48
Attitudes Towards Mental Alterations 48
Travel 48
Privacy 49
Incapacitating Inputs 49
Low-Tech Existence 50
Life, Death, and Morphs 50
Entertainment and Media 51
Lost Lore 51
Metacelebrities 52
Popular Types of Entertainment 52
POLITICS AND POWER 55
The Inner System 55
The Outer System 57
KEEPING THE PEACE 58
Law Enforcement 59
Punishment 60
THE ECONOMY 61
The Old Economy 61
The Transitional Economy 62
The New Economy 62
Restricting Dangerous Technologies 63
Irreproducible Goods 64
HABITATS 66
Planetary Settlements 66
Space Habitats 67
A Diversity of Floating Worlds 68
The Largest Habitats 68
Microgravity Habitats 68
Private Habitats 69
FACTIONS 70
The Hypercorps 70
Psiclone 70
War Crimes 71
Union Busting 72
Political Blocs 74
Zbrny Limited + Conspiracy 74
Inner System Politics 75
Autonomist Alliance 76
Call for Solidarity 77
Carnival of the Goat 78
Socio-Political Movements 79
Neo-Primitivists 80
Out'sters 80
Sybils 81
Religious Groups 82
Criminal Factions 83
Firewall 84
Project Ozma 85
SYSTEM GAZETEER 86
Sol (The Sun) 86
A Quick Primer On Transhuman Habitats 86
Solar System Map 87
Vulcanoids 88
Mercury 88
Venus 89
Earth 90
Venusian Rumors 90
Luna 91
TILION's Jupiter Brain 92
Mars 93
Martian Manhunt 95
Martian Trojans 96
Asteroid Belt 96
Jupiter 97
Europa 99
Ganymede and Callisto 99
The Trojans (Jovian Trojan and Greek Asteroids) 100
Saturn 102
Gate Expedition Report 901127 102
Titan 106
Uranus 107
Neptune 108
The Edge of the System 109
Extrasolar Systems 109
Analysis: Myst Trees 111
GAME MECHANICS 112
The Ultimate Rule 114
Dice 114
Making Tests 114
A Note on Terminology and Gender 114
Target Numbers 115
When to Make Tests 115
Difficulty and Modifiers 115
Criticals: Rolling Doubles 115
Defaulting: Untrained Skill Use 116
Teamwork 116
Simplifying Modifiers 116
TYPES OF TESTS 117
Success Tests 117
TIME AND ACTIONS 119
Action Turns 119
Types of Actions 119
DEFINING YOUR CHARACTER 120
Concept 120
Motivations 120
Ego vs. Morph 121
Character Stats 121
Ego Stats 121
Morph Stats 121
Character Skills 122
Character Traits 123
Character Morph 123
THINGS CHARACTERS USE 124
Identity 124
Social Networks 124
Cred 125
Rep 125
Gear 125
Implants 126
Psi 126
Game Rules Summary 127
CHARACTER CREATION AND ADVANCEMENT 128
CHARACTER GENERATION 130
Character Concept 130
Step-by-Step Guide to Character Creation 130
Choose Background 131
Choose Faction 132
Spend Free Points 134
Spend Customization Points 135
Purchase Gear 137
Choose Motivations 138
Example Motivations 138
Final Touches 138
STARTING MORPHS 139
Biomorphs 139
Pods 142
Synthetic Morphs 143
Infomorphs 145
TRAITS 145
Positive Traits 145
Negative Traits 148
CHARACTER ADVANCEMENT 152
Changing Motivation 152
Switching Morphs 152
Improving Aptitudes 152
Improving Skills 152
Specializations 153
Improving Moxie 153
Gaining/Losing Traits 153
Improving Rep 153
Making Credit 153
Improving Psi 153
SAMPLE CHARACTERS 154
SKILLS 170
SKILLS OVERVIEW 172
Core Skills: Aptitudes 172
Learned Skills 172
Specializations 173
USING SKILLS 173
Defaulting 173
Complementary Skills 173
Skill Ranges 174
APTITUDES 174
Aptitude-Only Tests 174
Aptitude Comparison: Flats vs. Splicers and Exalts 174
COMPLETE SKILL LIST 176
Academics: [Field] 176
Animal Handling 177
Art: [Field] 177
Beam Weapons 177
Blades 177
Climbing 177
Clubs 178
Control 178
Deception 178
Demolitions 178
Disguise 178
Exotic Melee Weapon: [Field] 178
Exotic Ranged Weapon: [Field] 178
Flight 178

Fray 178
Free Fall 179
Freerunning 179
Gunnery 179
Hardware: [Field] 179
Impersonation 180
Infiltration 180
Infosec 180
Interest: [Field] 180
Interfacing 180
Intimidation 180
Investigation 180
Kinesics 181
Kinetic Weapons 181
Language: [Field] 181
Languages In *Eclipse Phase* 181
Medicine: [Field] 182
Navigation 182
Networking: [Field] 182
Palming 182
Perception 182
Persuasion 183
Pilot: [Field] 183
Profession: [Field] 183
Programming 183
Protocol 183
Psi Assault 184
Psychosurgery 184
Research 184
Scrounging 184
Seeker Weapons 184
Sense 184
Spray Weapons 184
Swimming 184
Throwing Weapons 184
Unarmed Combat 185
SPECIAL SKILLS 185

ACTION AND COMBAT 186

ACTION TURNS 188
Step 1: Roll Initiative 188
Step 2: Begin First Action Phase 188
Step 3: Declare and Resolve Actions 188
Step 4: Rotate and Repeat 188
INITIATIVE 188
Initiative Order 189
Speed 189
Delayed Actions 189
ACTIONS 189
Automatic Actions 190
Quick Actions 190
Complex Actions 190
Task Actions 190
MOVEMENT 190
Movement Rates 191
COMBAT 191
Resolving Combat 191
Combat Summary 193
ACTION AND COMBAT COMPLICATIONS 193
Aimed Shots 193
Ammunition and Reloading 193
Area Effect Weapons 193
Armor 194
Asphyxiation 194
Beam Weapons 194
Blind Attacks 195
Bots, Synthmorphs, and Vehicles 195
Called Shots 197
Charging 197
Demolitions 197
Falling 197
Fire 198
Firing Modes and Rate of Fire 198
Full Defense 198
Gravity 198
Grenades and Seekers 199
Hostile Environments 200
Improvised Weapons 202
Knockdown/Knockback 202
Melee and Thrown Damage Bonus 202
Multiple Targets 202
Objects and Structures 202
Range 203
Reach 204
Scatter 204
Shock Attacks 204
Subdual 204
Suppressive Fire 204
Surprise 204
Tactical Networks 205
Touch-only Attack 206
Two-Handed Weapons 206
Wielding Two or More Weapons 206
PHYSICAL HEALTH 206
Damage Points 206
Damage Types 206
Durability and Health 207
Damage Value 207
Wounds 207
Death 207
HEALING AND REPAIR 208
Biomorph Healing 208
Synthmorph and Object Repair 208
MENTAL HEALTH 209
Stress Points 209
Lucidity and Stress 209
Stress Value 209
Trauma 209
Derangements 210
Disorders 211
Stressful Situations 214
Willpower Stress Tests 214
Hardening 214
Mental Healing and Psychotherapy 215

MIND HACKS 216

PSI 218
The Nature of Psi 218
Æther Jabber: Asyncs 219
PSI 220
Using Psi 221
Psi-Chi Sleights 223
Psi-Gamma Sleights 226
PSYCHOSURGERY 229
The Process of Psychosurgery 229
The Human Cognome Project 229
Psychosurgery Mechanics 230
Roleplaying Mind Edits 231
Psychosurgery Procedures 231
The Lost 233

THE MESH 234

MESH CAPABILITIES 236
Meshing Technologies 237
Information Overload 237
Legacy of the TITANs 237
Ecto(-Link) 237
INTERFACING: AR, VR, AND XP 239
Augmented Reality 239
Virtual Reality 240
Experience Playback 241
MESH USES 241
Personal Area Networks 241
Virtual Private Networks 241
Social Networks 242
Mobile Offices 242
ISLANDS IN THE NET 242
Darkcasts 243
MESH ABUSES 243
Hackers 243
Malware 244
AIs AND INFOLIFE 244
AIs 244
Muses 244
AGIs 244
Seed AI 245
Transhuman Infomorphs 245
Mesh Interface 245
What Your Muse Can Do For You 245
Non-standard AIs and AGIs 245
Mesh ID 246
Accounts and Access Privileges 246
Elite Exploits 246
Mesh Gear Quality 247
Computer Capabilities 247
Software 248
Traffic Filters and Mist 248
Slaving Devices 248
Issuing Commands 248
Distance Lag 248
Accessing Multiple Devices 249
ONLINE RESEARCH 249
Search Challenges 249
Search Capabilities 249
Handling Searches 250
Real-Time Searches 251
Hidden Data 251
SCANNING, TRACKING, AND MONITORING 251
Wireless Scanning 251
Physical Tracking 251
Digital Activity Tracking 252
Sniffing 252
PRIVACY AND ANONYMIZATION 252
Privacy Mode 252
Anonymization 252
MESH SECURITY 253
Authentication 253
Firewalls 253
Active Monitoring 253
Encryption 253
INTRUSION 254
Preconditions 254
Circumventing Authentication 255
Intrusion Tests 255
The Hacking Sequence 255
Intruder Status 256
Changing Status 256
Brute-Force Hacking 256
INTRUSION COUNTERMEASURES 257
Security Alerts 257
Passive Countermeasures 257
Active Countermeasures 257
Joint Hacking/Securing 258
SUBVERSION 259
Augmented Reality Illusions 259
Backdoors 260
Crashing Software 260
Eliminating Intrusion Traces 260
Hacking VPNs 260
Scripting 260
CYBERBRAIN HACKING 261
Entrapment 261
Memory Hacking 261
Puppeteering 261
Scorching 261
Shutdown 262
Terminate Cortical Stack Feed 262

RADIO JAMMING 262
Jamming Radar 262
SIMULSPACES 262
Simulmorphs 262
Immersion 262
External Mesh Interaction 263
Simulspace Rules 263
Domain Rules 263
Cheating 263
Hacking Simulspaces 263
AIs AND MUSES 264
AI Limitations 264
Commanding AIs 264
AGIs AND INFOMORPHS 264
Software Minds 265
AGI Characters 265
Roleplaying Muses 265
Infomorphs As Muses 265

ACCELERATED FUTURE 266
BACKUPS AND UPLOADING 268
Cortical Stack Backups 268
Uploading 268
Backup Insurance 269
Backup Complications 270
RESLEEVING 270
Resleeving Biomorphs and Pods 271
Resleeving Synthmorphs 271
Resleeving Costs 271
Integration 271
Resleeving and the Gamemaster 271
Alienation 272
Continuity Test 272
Infomorph Resleeving 272
FORKING AND MERGING 273
Alpha Forks 273
Beta Forks 273
Delta Forks 273
Gamma Forks 274
Neural Pruning 274
Handling Forks 274
Merging 275
EGOCASTING 275
Egocaster Security 276
Darkcasting 276
MORPH BROKERAGE 276
Morph Availability 276
Morph Acquisition 277
Custom-Grown or -Designed Morphs 278
Renting Morphs 278
IDENTITY 279
Identity Verification 279
Circumventing ID Checks 280
LIFE IN SPACE 280
Space Habitats 280
Immigration and Customs 282
Space Travel 283
NANOFABRICATION 284
Raw Materials 284
Blueprints 284
Time 285
The Programming Test 285
REPUTATION AND SOCIAL NETWORKS 285
Social Networks 286
Reputation 286
Using Networks and Rep 287
Favors 289
Reputation and Identity 289
SECURITY 291
Access Control 291
Detection and Surveillance 292
Active Countermeasures 293

GEAR 294
EQUIPMENT RULES 296
Acquiring Gear 296
Gear Modifiers 296
Design and Fashion 297
Future Materials 298
MESHED GEAR 299
Radio and Sensor Ranges 299
Power 299
PERSONAL AUGMENTATION 300
Standard Augmentations 300
Bioware 301
Using Enhanced Senses 302
Cyberware 306
Synthmorphs and Bioware 306
Nanoware 308
Cosmetic Mods 309
Robotic Enhancements 310
Armor 312
Armor Mods 313
Communications 313
Neutrino Communicators 314
Quantum Farcasters 314
Quantum Entangled Communication 315
Covert and Espionage Technologies 315
Bugs and Surveillance 315
DRUGS, CHEMICALS, AND TOXINS 317
Substance Rules 317
Drugs 318
Nanodrugs 321
Other Nanodrugs 321
Sample Petals 322
Narcoalgorithms 323
Chemicals 323
Toxins 323
Nanotoxins 324
Pathogens 324
Psi Drugs 325
EVERYDAY TECHNOLOGY 325
NANOTECHNOLOGY 326
Basic Nanotechnology 326
Advanced Nanotechnology 328
Pets 330
Scavenger Tech 330
Services 330
Software 331
Survival Gear 332
WEAPONS 334
Melee Weapons 334
Kinetic Weapons 335
Brand Name Weapons and Combined Arms 336
Beam Weapons 338
Seekers 339
Spray Weapons 340
Grenades and Seekers 340
Exotic Ranged Weapons 341
Weapon Accessories 342
ROBOTS AND VEHICLES 343
Aircraft 343
Exoskeletons 343
Groundcraft 344
Personal Vehicles 345
Robots 345
Spacecraft 346

GAME INFORMATION 350
SECRETS THAT MATTER 352
Extraterrestrial Intelligences 352
Spoiler Alert 352
The First Seed AIs 353
The ETI Agenda 353
The True History of the TITANs 354
Infection 354
The Fall 354
After The Fall 355
FIREWALL 356
History 356
Organization 356
Optional Rule: i-REP 357
Cliques 359
Methods 360
What Help Can a Sentinel Expect? 360
Long-term Strategies and Goals 361
Firewall and Other Organizations 361
THE ETI 361
Handling Aliens 361
EXHUMANS 362
Neurodes 362
Predators 362
THE EXSURGENT VIRUS 362
Biological Nanovirus 363
Digital Virus 364
Nanoplague 364
Basilisk Hacks 364
Exsurgent Strains 366
Using the Exsurgent Virus 368
Roleplaying Exsurgents 368
Exsurgents 369
Exsurgent Psi 371
Exsurgent Psi-Gamma Sleights 371
Exsurgent Psi-Epsilon Sleights 371
THE FACTORS 372
Origin and Evolution 372
Xenobiology 373
Exosociology 374
Factor Motivations 375
The Factors in Game 375
Factor Phenotypes 376
Roleplaying Factors 376
THE IKTOMI 377
THE PANDORA GATES 377
The Wormhole 378
Operations 378
Gatecrashing 378
Anomalies 379
PROJECT OZMA 379
Methods 380
Project Ozma and Firewall 380
Project Ozma Rumors 380
PROMETHEANS 381
THE TITANs AND THEIR LEGACY 381
Deadly Machines 382
Self-replicating Nanoswarms 383
Nanovirii 384
GAMEMASTERING AND ADMINISTRATION 384
Awarding Rez Points 384
Reputation Gain and Loss 384
Backups, Record-Keeping, and Save Points 385
Gamemastering Practicalities 386
NPCs and Moxie 386

TABLES 390
REFERENCES 394
INDEX 395
CHARACTER SHEET 399

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Dedication: This book is dedicated first and foremost to the people who made *Eclipse Phase* happen, from everyone who contributed time, sweat, ideas, and money into it to everyone who picks it up, reads it, and plays it. This game is by you and for you. Secondly it's dedicated to my grandmother and to Andrea, both important people in my life who died while I was working on this book and its themes of defeating death. I sincerely hope that one day such tragic losses are avoided. Third, this book is dedicated to my son Echo, my entertaining working companion on this project. Finally this book is dedicated to those visionaries, especially the anarchists and transhumanists, who are working to bring about a fantastic future, starting now. —Rob Boyle

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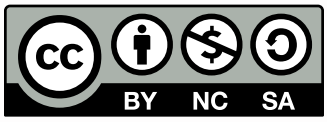

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LACK

"What's the number?"

The words dig their claws into my new vocal cords and yank themselves up and out of my parched throat. My diction is predictably poor, as it always is during the first few minutes following a resleeve. The pitch of the voice is apparent despite the mumbled, sandpaper slur of the words. Definitely a biomorph and my latest sex is female. This much I know in the first few seconds. The model eludes me right now, but I'll know for certain soon enough, once motion is mine again. Another fury morph is my first guess.

The slab is hard. Nothing more than frigid metal with crisp white synth-slick wrapped around it. Typical accommodations for a corp dollhouse. The chill seeps through my skin and wraps around my bones.

A cortical cruncher looms over me, waving his welcome-back beam side to side, occasionally catching my pupils. His smug, bored face speaks: "Consciousness confirmed." The beam clicks off. My question should have made it obvious that I am back, but the guy is a slave to procedure. They all are. Corporate body banks like their employees paralyzed by obedience, unable to think for themselves. I mumble the question again. "What's the number?"

"March 11."

"How many after the Fall?"

"Are you for real?"

I am paranoid. Yes. I need to know the year every time I return upon a body bank slab. Paranoia is just one of the plagues transhumanity faces these days.

I try to snag the data from my new sleeve's mesh inserts before opening my mouth again. No luck. Asking a sleeve tech for the year is always humiliating. Makes me feel like an amateur, but the circumstances are definitely extenuating, so I press him. Hard.

"Answer the fucking question."

The corp sloth gives me the lunatic eye before he answers.

"Uh ... 10 AF. You haven't been gone that long. Your last backup ... "

He scans his entoptics for the info.

" ... 14 days, 7 hours ago."

It takes a second to sink in, but when it does, it stings. It never ceases to shock when time slips away from me. Two weeks. Gone. Completely wiped from my existence. Two weeks ago, there was another me, sleeved in another morph. There was a mission and it led to my death. That is all I know. Either Firewall failed to retrieve the cortical stack off the corpse so I could retain those two weeks, or the fuckers deliberately chose to swipe that time from me. Honestly, though, both possibilities are preferable to having another self bouncing around out there, doing who knows what-the-fuck. Some t-humies get off on having multiple selves traipsing all over, but my ego is in check. One Sava is enough misery to unleash on the 'verse.

Shit. My brain is wandering off into morose territory; always does during the first moments following a resleeve. I need a physical context. Something tangible to focus my attention on. I bring my hands in front of my eyes, arms feeling like two-ton sacks of rocks. The fingers are thin and long; the knuckles callused, scarred and misshapen. Obviously the work of many thrown punches, fists connecting with jaws, metal, flesh. Yep. A well-worn fury morph. You get what you pay for, I suppose; or what Firewall is willing to pay for. Why do I do it? As far as the org is concerned, I'm nothing more than a cheap precision instrument, tossed into the recycling bin when I snap in half. There will always be more of me, until the horrors prove too intense, until the files get too corrupt, until I know too much and Firewall decides to wipe me, then some other sap will step in to preserve transhumanity. Preserve transhumanity. Fantastic. Now I'm babbling like a Firewall propaganda tweet! My arms weaken and flop back to my sides. The strength just isn't there yet. A few more minutes with nothing but my thoughts.

On his way out of the recovery bay, the cort cruncher laughs at my feeble attempt at motion. "What's your hurry?" he says. "Just relax, willya? You collapse onto the floor, you're gonna stay there until you get yourself up. They don't pay me enough to babysit newbies." His flippancy doesn't help my mood and the melancholy returns.

What experiences are no longer a part of my consciousness? Perhaps the thrill of a lifetime. Did I discover true beauty? Fall in love? Have an epiphany? Save a life? I'll never know. Those memories, that life, that version of me, is gone. The new me, lying on this slab, was never shaped by those experiences. My chest hollows out from the weight of the loss.

I gotta shift the thought process.

Fuck it. Maybe there was no joy, no revelations. It was a shit two weeks. I'm certain of it. I was bored out of my mind. Better yet, broken and suffering from an epic heartache. My demise was meaningless. I OD'd on kick, flopping on the floor in a pathetic speed-addled frenzy till my heart exploded. I was gutted by some low-life scumborn in a back station corridor over some lo-rez black market XP. I'm glad the time was wiped. Ecstatic, in fact. Fuck it. Fuck them. I don't need those two weeks.

But these thoughts are lies. I need those two weeks. I don't feel whole without them. Hell, I feel incomplete if even an hour is sacrificed. I have to know.

Someone knows what occurred. No doubt. Probably a Firewall proxy, Jesper most likely. He was my connect this go round. I remember that much. The wipe would have been his call. And proxies have a quick trigger finger when it comes to wiping us sentinels. Even a hard-earned rep score can't save my memories when Firewall deems the results of a mission too sensitive for an outer circle thug like myself to possess. As long as the fucking job gets done. As long as transhumanity perseveres.

What a shit deal.

How did my life, *my lives*, come to this? Always in the hands of another.

Again, the dread, the paranoia. I gotta shake this off. I have to give the org the benefit of the doubt. I've been a sentinel for decades. I like to think I've saved millions of lives, but I'm just not sure.

Do I trust the org? No. But there is an understanding, a degree of respect. Though as the years continue to race by, and the gaps grow longer and more frequent, I'm beginning to doubt Firewall's commitment to *my* preservation.

Suddenly, my muse stirs, breaking my dark reverie. Several entoptic displays appear in my field of vision, cycling through diagnostic routines as my mesh inserts finally come online. Careza's familiar feminine voice enters my mind.

[Welcome back, Sava.]

The sound is soothing; like being cradled by my mother, or embraced by a lover. The harmonic upgrade was a worthwhile investment. Careza has learned to use it well. I rarely think of my muse as an AI. It is my only true friend these days. I wonder if it shares the sentiment. I've never shot the thought its way. I keep it to myself. I'm afraid of what the response might be.

Hey Careza. Glad to be back.

[You could use a drink, I suspect.]

You know me too well, Car. Better than I know myself.

[Hospitality now has the request. Wait time, approximately ten minutes.]

Thanks. Careza enjoys our conversations when my brain has a slight buzz. It is always trying to get me drunk.

CAREZA
SAVA'S MUSE

[You're welcome, Sava. Before you ask, it's been two weeks. I don't have any information on what happened following our last resleeve. Currently, we are in lunar orbit aboard Selardi IV. We are outfitted in a CoreCorp-brand fury morph with minor enhancements. They will be online shortly. I am pleased to report the Titanians were victorious and won the Cup.]

Damnit. Would have made a killing on that one. What did the odds go off at? But before Careza can dig up the info, I shut down the operation. *Wait. No. I don't want to know. It'll only irritate me more.* A nervous energy starts to itch my entire system and a thick familiar taste begins to coat my tongue. *I need a cigarette.*

[Yes. I know. The previous occupant of this morph was a heavy smoker. The habit might be difficult to shake this time.]

This resleeve just keeps getting better by the minute. I hate smoking. Booze, fine. I can handle my alcohol, but smoking always makes me feel like shit. Every time I get sleeved in a morph with the addiction, I struggle to kick it. Careza continues with her report as I try to retain my sanity in the face of an intense nicotine craving.

[@-rep remains intact.]

Finally some good news. At least I didn't piss off any allies in the past 2 weeks.

[Indeed. Are you in the right frame of mind for an update on Rati?]

Rati is my passion. The lover I hold above all others. She disappeared on me two years ago. No explanation. The sting still lingers.

Let's skip the update for now, Careza.

[Understood.]

Run a newsfeed scan. Check for any major incidents in the past 2 weeks. Maybe there's a clue as to what we may have been up to.

As Careza runs the scan and continues her standard sitrep, I shift my attention to the new sleeve. The strength to stand is finally there. I push the morph up and swing the feet onto the floor. Spasms shoot through every muscle. New morphs always take a bit of time in which to acclimate. Luckily, I'm familiar with the CoreCorp fury, sleeved it a few times in the past. This one feels like an old pair of shoes, bit worn and abused, but able to pound the pavement if need be. The left ankle is a bit tender. I hold it up a bit to get a look. Bit swollen. Definitely not new sleeve dysmorphia. Probably a nagging injury. Again, a pain in the ass, but you get what you pay for, I suppose. The nanotat encircling the right bicep is rude and obnoxious, even by scum standards—an entire slitheroid entering the genitals of a female pleasure pod, fully animated. Class act, whoever opted to etch that upon the morph. I hate identifying marks, but again, if you can't afford a clean morph, you take what you can get.

I slide off the table, managing not to fall over in the process, and gingerly test the ankle. Sore, but it isn't going to snap off.

Put in a request for a patch, left ankle. Bute should be fine.

[Phenylbutazone. On it's way. And the cocktail will be here in approximately 30 seconds. Nothing unusual on the newsfeed scan.]

Figures.

I plod over to the full-length mirror, standard issue in resleeve waking chambers, and drop the sheet to take a look at the new me. I spy the cortical cruncher lingering in the doorway, my cocktail in his hand, giving my body an appreciative look. I don't recognize myself.

"Hand me my drink please." I reach out my hand in his direction without even acknowledging his presence. He steps into the room, too close to me, and slips the drink into my hand. His breath smells like some sort of sour sausage.

"Not too bad under the sheet, are you?" he says. "I took a peek earlier, but I must say, the slab didn't do you justice. On your feet, the curves really pop. Your face isn't much to look at, but that rack is ... "

I cut him off before I vomit bile into my mouth. "It's exquisite. I know. Now shut up and back off before I rip the skin off your face and slap you silly with it." He gets the message and slinks from the room.

It is a nice rack.

[If nice is defined by proportion, then I would say yes.]

AIs, always so formal.

[You're approximately 4 centimeters taller than your usual proprioception allows for, so watch your head.]

Thanks for the heads up.

[That was awful.]

Yeah. Yeah. I know. A smile finds its way onto my face as the banter with my muse lightens my mood. Looking in the mirror, I try to broaden the smile, to get a better sense of my new face. I show some teeth. Nicotine stains all over them. I take a long sip from my cocktail, swish the alcohol around a bit. I can feel my blood respond instantly to the sauce. I close my eyes and let out a sigh. Just a few moments of peace is all I ask.

[We have a guest, Sava.] Damnit. No such luck.

Who?

[Our last Firewall proxy, Jesper, has sent a beta-level fork of himself. It is rather impatient to speak with you.]

Connect him.

They just cannot leave me alone, can they? Officially, Firewall doesn't even exist. It's because of Rati that they got their tentacles wrapped all around me, through me. The whole mess on Mars. That's where it all started. The last time I saw Rati. All that knowledge they allowed me to retain. But why? Until that day, I had never realized just how scary the universe truly was. No, not scary. Horrific. No other word for something so vast, so *uncaring*. Transhumanity could be wiped out completely and it would all just continue on as before. Horrific. No other way to explain the feeling you have when you come face to face with things truly beyond comprehension. Hell, no other term could encapsulate transhumanity's actions towards each other—much less what other beings lurking in the void have in store for us. Perhaps that was why. To teach me a lesson. To make certain I would never forget, so I would never cease assisting the org, because even the briefest glimpse of what is actually out there is enough.

JESPER
FIREWALL PROXY,
SAVA'S CONTACT @ FIREWALL

Jesper's fork materializes in my field of vision.

[Welcome back, Sava.]

Fuck off, Jesper. You know I hate waking up with lack.

[Sorry. Nothing I could do.] His expression is serious and concerned, but his kinesics indicate he is as calm as can be. What an act! Fucking proxies never panic. They hold all the cards and it's never their minds that are on the line.

Yeah. Right. Get to the point. You don't have me sleeved in a combat morph to get some downtime, so you must have something serious lined up. Are Berk, Pivo, and Sarlo here?

[Yes, they have been resleeved in the same facility.]

At least my team is with me. People I could count on. To a certain degree.

All right. What are the details?

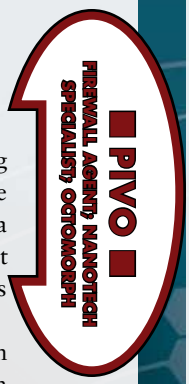
* * *

Pivo gripped the smooth outer surface of the station with all eight arms. Nano-magnetics at the tips of his vacsuit arms were the only difference between a secure hold and an endless drift into the depths of space. He peered up through his faceplate at the dark orb above him.

Earth.

His eyes locked on an expanse of dead black ocean through the ominous clouds. Pivo longed to swim in those ancient depths. Born and bred for space, he had never once immersed himself in the former ecological niche of his kind. Odds were against his ever taking a plunge into the salty waters of an Earth ocean. The planet was now a plagued death trap. A wasteland of skeletal forms.

He imagined a time before the Fall, when his ancestors thrust through blue waters and slipped effortlessly through mazes of coral, or gently floated along with the current, not bothered by the burden of sapience. Perhaps octopi still survived beneath the black waters of the present, eking out a brief existence, biding their time, keeping the species true and alive until the Earth could be reclaimed, and Pivo would join them on that glorious day, abandoning knowledge altogether, and returning to the ways of instinct.



Vacsuit sensors interrupted Pivo's fantasy, detecting a laser light that bathed his form—contact from Sava by line-of-sight laser link. It was the preferred method of communication when a mission required discretion. Pivo's muse processed the message, and Sava's voice entered his head.

[Something wrong? Why'd you stop moving?]

[Just enjoying the view,] Pivo beamed back.

[Enjoy it on the way down, for hours if you want. Get inside the station before one of the sentry bots finds us.]

Pivo didn't bother to respond. There was no arguing with Sava. No use in defending your actions. Pivo began crawling along the shell of the station again. The station itself was tethered to the end of a long, black, carbon nanotube cable that stretched all the way down to the planet's surface—the sole surviving space elevator.

Pivo located the breach, a thin scar in the station's metallic hull, the result of an internal explosion responsible for the station's demise during the Fall. The breach was exactly where Sava said it would be and the description of its size was dead-on: a gap barely large enough for a human infant to slip through. According to Sava, years ago, the self-repairing nanosystems operating in the hull's metal had malfunctioned before the breach had been fully repaired. The level of mission details Sava managed to extract from Firewall was scary sometimes. Paranoia bloomed for a moment, but he quickly dismissed his suspicion, compressed his cephalopod form, and squeezed his body through the breach.

In blackness, Pivo activated his infrared emitter, casting the room in a light outside the normal visual spectrum. The interior of the lifeless station became visible to his enhanced eyes in the eerie altered colors of infrared. Pivo almost preferred the dark. Ice crystals glittered from every surface, the reult of flash frozen moisture in the long-absent atmosphere. Frigid clumps of human remains floated alongside chunks of hull metal in a macabre zero-gravity ballet. Pivo floated through the wreckage and the gore, lightly tapping aside metal or flesh to clear a path deeper into the room. A female head drifted slowly by, the face frozen in a gaping silent scream. An intact cortical stack dangled from the severed neck. For a second, Pivo considered snatching the stack, but he was not here to retrieve lost souls. Instead, he placed two of his arms upon the top of the head and pushed it beneath him, towards the floor. Like so many others lost during the Fall, this person would remain forgotten here.

Pivo made it to the airlock without incident, but he knew his luck would run dry eventually. A run-in with hypercorp guardians on a derelict station was unavoidable. Sensors may have already detected his presence. It was only a matter of time before bots converged on his position. He just hoped that when it occurred (and it most certainly would), it would happen after he had opened up the airlock and the rest of the team was inside the station.

The airlock had been welded shut from the inside. Pivo was prepared for this eventuality, but it made his detection by guardian bots a certainty. He composed himself for a few seconds, focused on the task at hand, then fired up the plasma torch built into one of his vacsuit arms. A sizzling hiss and a harsh hot blue glare filled the room. Seconds were now his most precious possession.

He was almost through the inner door when his muse pinged him with a warning from the passive teraherz sensor. An object was moving towards Pivo's position rapidly, now only twenty meters away. A sentry bot would be upon him in soon.

[Almost through the first door,] Pivo transmitted calmly, even though it took every ounce of his will to keep the torch steady. [I have company. Be ready.]

[Copy that,] Sava replied.

Finally, Pivo cut through the seal. The octomorph slithered four arms through the still smoldering sliced metal, and with a strained yank, pulled the door from the frame. The door slowly floated away into the chamber, the edges rapidly cooling. The interior airlock door was not welded shut. With a vocal sigh of relief, all eight of Pivo's arms began a frenzied assault upon the airlock door's manual controls.

[Few more seconds. Just a few more seconds.] But the seconds had expired.

In his 360-degree field of vision, Pivo could see the security bot thrust into view behind him. The bot unloaded its weapons immediately, the shots ricocheting off the floating airlock door. The bot advanced on the door, and with a furious swat knocked the obstruction aside. It clanged upon the crystalline surface of the wall. Just as Pivo pulled the last lever to release the airlock door, blazing plasma fire engulfed him.

* * *

Sava had instructed Careza to surge the neurochem the instant the airlock portal was open. The muse did not fail to deliver. In what seemed like an eternal slow-mo to Sava's charged brain, the airlock door swung open into the station, aided by a thudding steel leg kick courtesy of Berk, the team's muscle. With a flash of thought, Sava's targeting radar snapped up an entoptic display and locked on two targets: Pivo and a sentry bot. The robotic guard dog was already leveling its weapons, but Sava was faster. Retinal-searing plasma fire erupted from Sava's weapon, singeing one of Pivo's arms and slamming the sentry back. A second shot punched through the bot's armored carapace, melting critical components within, rendering the bot a useless pile of fused scrap metal.

Sava moved quickly past the cursing octomorph and unloaded two more shots into the smoking bot.

[We're clear,] Sava transmitted. [One down, but there is always more. Count on it. Pivo, you shiny?]

[You scorched my breeding arm, puta.] Pivo shot back with clear agitation rumbling in the harmonics.

[You rather I leave you to the bot next time?] Sava turned to Sarlo. [Sarlo, get in here and find the console you need. Berk, we're going to need to set up defensive positions, to give hacker boy here time to crunch his bits.]

Pivo cut through his vacsuit and detached his damaged arm, cursing Sava under his breath as the vacsuit rapidly repaired itself and sealed the gap.

[Hey. Don't worry, Pivo. You've got seven more. And besides, you don't really strike me as the breeding type anyway.] Sava relished giving Pivo a hard time. It was one of the true joys in life.

Pushing off from one wall to the next, Sarlo moved along the chamber with ease and grace. His neotenic morph was slighter and even more diminutive than the average human child sleeve, completely augmented and customized to match his "preferences." He had paid a fortune for it. The others never understood Sarlo's penchant for juvenile human sleeves, so much so that he always kicked in his own credits to ensure an augmented neotenic resleeve, even when Firewall was footing the bill. They also didn't know where his seemingly endless supply of personal funds came from, nor did they want to. As long as he got the job done.

Two minidrones followed after Sarlo, lighting the area in infrared and actively scanning on other wavelengths. [This way,] he said, transmitting an entoptic map to each team member's overlay. [It's not far, a hundred meters or so.] A highlighted route appeared on the map.

SARLO
FIREWALL AGENT; HACKER; NEOTENIC MORPH

Sava and Pivo followed closely behind Sarlo, while Berk struggled to keep pace in her armored gynoid shell.

[Keep up, flatlander. We'll be down the gravity well soon enough,] Sava beamed to Berk.

[Not soon enough for me,] Berk replied.

The abandoned station was eerily quiet. Signs of long-forgotten violence and desperation lingered everywhere. Floating debris. Ruptured and frozen bodies. Scorch marks and twisted metal. Death owned this place.

When the team reached the control station, Sava and Berk took up defensive positions in the corridor while Sarlo and Pivo went to work on the station's dormant systems.

BERK
FIREWALL AGENT; SECURITY SPECIALIST; SYNTH

[I'll be damned! The mission spec was actually right. The station systems are active but dormant. Whomever's guarding this place didn't wreck the systems, they left open the possibility that the space elevator could be activated again.] Sarlo gleefully began his procedures to hack the system.

[Who the fuck would want to risk going down to that ball of ash?] Berk piped in.

Pivo waved one of his arms in agitation. [Need I remind you that some of us happen to think that reclaiming our home planet is a *good* idea?]

[Reactionary thinking, if you ask me.] Berk replied. [Shrugging off all of our old nation-state loyalties is one of the best steps transhumanity has ever made. Leave reveling in the glories of the past to the bio-cons. I'll take a future where we step boldly outward into space, thank you much.]

[Let's cut the politics.] Sava pointed at Berk. [You're an anarchist, I get it.] Then Sava pointed at Pivo. [And you're on a reclamation kick. Fine.] But Sava's rant was interrupted by half a dozen fast moving dots upon the team's entoptic radars. [Incoming pings. Sarlo, you in yet?]

[Working on it. Fuck. Fuck. Shit.] Sarlo's childish voice sounded petulant.

[Work faster. If these bots have heavy ordnance, we're screwed.] Sava and Berk both unloaded suppression fire down their respective stretches of corridor before the bots even made it to the corners. The bots halted their approach momentarily, taking cover just around the bend. More bots began to appear on the radar, moving towards the position of the first responders.

[We're running out of time, Sar! More bots gathering!] Sava unloaded another round of suppression at the bend. Berk kept her weapon quiet, waiting for a bot to make a move into the corridor before lighting it up, but the bots remained put. More gathered, and even more appeared on radar, moving to the same position.

[They're gonna be all over us any second now!]

[Consider this a gift, ladies and gents ...] And with a final operation, Sarlo seized control of the station's entire security system.

Suddenly, one of the bots turned on the others. Another soon joined it. In a matter of seconds, fumes and debris came drifting down the corridor as all-out warfare broke out between the bots. Sava and Berk lowered their weapons and admired the sounds of Sarlo's handiwork.

[Damn, Sar! I guess that is why you are one of the best hackers in the system!]

[Applause, applause, ya waify freak!]

[When you've got cutting edge-exploits courtesy of the leet coding AGIs on Extropia, there's not a whole lot you can't do.] Sarlo delivered the line with a calm harmonic, but Sava was watching his kinesics, and they were off the charts. The neotenic's little heart was beating like a drum roll. Sava opted not to bust his furless balls about it, and instead let Sarlo have his moment in the sun. This had been a "close one," and another close one might not end up in their favor.

Sava allowed a few seconds of relieved silence before getting the team back to business. [Sarlo. How soon till the elevator is active?]

* * *

Pivo stuck to the portal, watching as they descended below the soot-filled layer of clouds and the Earth below came into view. They were in the atmosphere now, descending on a taut beanstalk stretched between the Earth and station above, a massive feat of engineering built from carbon nanotubes. The shuttle car crawled down the elevator cable, bringing them closer and closer to the ruined planet.

Earth's atmosphere was now choked with a thick dust, the color of rust. The winds whipped over the planet's surface with breakneck velocity, swirling dangerously in certain pockets. The world's weather systems had been irretrievably ravaged by the Fall, when transhumanity had seemingly gone to war with a group of rogue AIs known as the TITANs. Bombs, raging fires, chemical attacks, biowar plagues, voracious nanoswarms—even nukes—had taken their toll. It was now an inhospitable place, gripped by nuclear winter. Some of the clouds were formed into unusual shapes, defying the high winds, even seeming to writhe as they moved—the thriving descendents of self-replicating airborne nanoswarms, Pivo suspected. Who knew what other monstrosities waited for them below, evolved from the remnants of AI war machines?

The Earth was off-limits now. Abandoned to the enemy. Though the TITANs were presumed to be long gone, escaping the solar system via secretly-constructed wormholes gates, taking millions of forcibly uploaded transhuman minds with them—they had left many of their tools and weapons behind. Likewise, some of the weapons transhumanity had unleashed on the AIs—and, quite often, themselves—had taken on a life of their own. So Earth had been abandoned and interdicted, with hypercorp killsats laced into orbit to shoot down anything that attempted to leave or land on the planet's surface.

As a reclaimer, Pivo was part of a small but vocal faction that advocated a return to Earth. There was still hope for the planet, they believed. It had always perservered, and this was no time to give up on it. Earth needed to be cleansed and terraformed, resuscitating transhumanity's home. But the reclamers were a minority. To most survivors of the Fall, the Earth held too many horrible memories. Lives ruined. Loved ones lost. Their own deaths. It was a monument to transhumanity's arrogance and mistakes, a grim reminder that they were not above destroying themselves despite all of their advances and technology, or perhaps because of them.

This didn't prevent some from trying, of course. Scavengers still raided the planet's ruins, retrieving long-lost treasures, cultural artifacts, or even the preserved mind-states of those who failed to escape. Some reclaimers had initiated their own secret missions, intending to establish a basecamp from which they would begin operating their own reclamation projects. Most were never heard from again.

The team of four rested and prepared equipment in the shuttle's large open lounge, Sava and Sarlo in a cramped inflatable survival bubble so the biomorphs could escape the confines of their vacsuits for a while. Pivo elected to remain outside the bubble and in the vacsuit. Close confines with Sava during the descent did not sound pleasant to him. The walls of the lounge were smeared with decades-old blood, now frozen into a crystalline brown in the depressurized cabin. Whoever the last passengers were to ride this shuttle, fleeing the doomed Earth, must have set violently upon each other, fueled by madness or despair.

[I wonder what it was like.] Sarlo tossed the thought out to the group.

[What?] Pivo replied.

Sava quickly jumped in and put an end to the discussion Sarlo was yearning to start. [Quit with the philosophizing and the dramatizing. You know I cannot stand that shit.] Sava tried desperately to maintain order and an air of gruff detachment. It was too easy to let the brain wander off into the past and the fate of the millions who perished during the Fall. To counter this, Sava always resorted to the diatribe. [Listen. We all know the mission specs. We're locating someone. A courier. Most likely a corpse. Last known position while alive was the base station we will drop into when this ride stops. Mount Kilimanjaro. Which, according to *quite* reliable sources, was once overrun by killbots, which are most likely still in the vicinity.] Sava paused for dramatic effect before continuing. [We retrieve something from the courier. What, we don't fucking know. Only that it is *quite* valuable to the org. We stick to what we know. I don't want to hear any more bullshit "what ifs" and "I wonders." If your thoughts are anywhere other than the mission, keep them to yourself. I don't want to hear them.] And with that declaration, the rest of the journey to the Kilimanjaro station was in silence, each confined to their own thoughts, not a single ping between them.

* * *

The shuttle rattled to a stop inside the dark cavernous hangar. At one time, the Kilimanjaro hangar was the busiest Earth-to-space station port in the world, servicing millions of customers annually. Now, as Pivo clung to a shuttle window and stared out into the black emptiness of the hangar, it seemed as if the place was a soulless vacuum.

[Ready when you are.] Sarlo pinged Sava, poised to hack open the shuttle door and allow the stale dust-choked air of Earth to waft over the team. Sava nodded to Sarlo and the shuttle door slid open with a rush of decompression. A blinding red-gray dust blasted into the shuttle from the hangar and coated the shuttle interior almost immediately.

Sava's first step into the Kilimanjaro hangar landed firmly onto the brittle ribcage of a child's skeleton. The bones snapped into splinters and powder with a crunch. The floor surrounding the shuttle airlock was carpeted with skeletons entangled in a mass of tattered clothing. There was no way to avoid stepping upon them. One by one, the others stepped from the airlock.

[This place is a tomb,] Berk beamed to the group.

[This whole planet is a tomb,] Sava replied, with an extra echo harmonic allowing the word tomb to continue on well after the phrase was transmitted, added specifically to annoy Pivo, who immediately shut down the echo in his head with a countermeasure from his muse.

Sava took a few more crunching steps forward, then stopped. The rest of the team followed suit.

[Something is not right here.] Sava kicked at one of the skeletons. The bones rattled and cracked. [I don't see any skulls.]

[Forced uploading,] Sarlo transmitted. [TITAN machines harvested the heads of the dead for scanning.] He shrugged. [That's my guess, anyway.]

[Shut up!] Sava signaled the team to silence. [Who else hears that?]

A low mechanical whir reverberated nearby. [I'm picking it up.] Pivo replied. [Up a bit to the north. About 30 meters.] As if in response to Pivo's observation, another whir began, this one behind the team, from the south end of the hangar. Another whir from the east joined in the chorus. The sounds were coming closer, becoming more distinct, more aggressive.

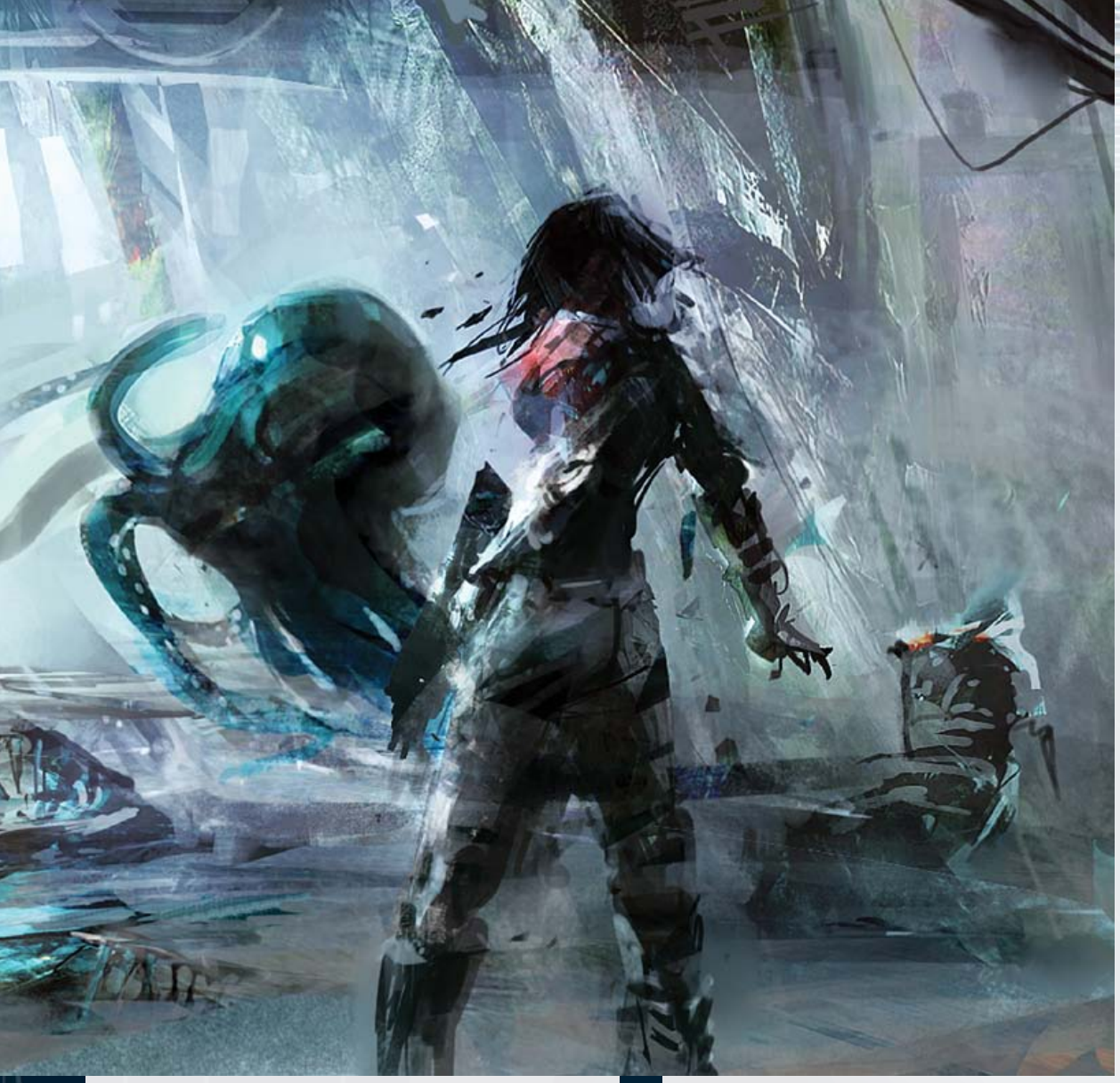
[No visual, yet. This fucking place is so deep and thick with this dust shit, seems to act like chaff too. Infrared is giving me only about twenty feet!] Sava motioned for the team to move to the right. [Stay close, we move slow and keep the triggers itchy. The passenger lounges are just east of us. We start the search there.] The whirs were now all around them, hovering just outside visual range.

[What the fuck is that?] A flying insectoid bot with six articulated arms ending in small buzzsaws lunged from the dusty darkness at Berk, who dropped to the floor and unleashed plasma fire into it. The bot slammed into a pile of bones and rags and set it alight. The fire spread quickly, leaping from dry cloth to dry cloth. The blazing hangar floor now illuminated the area in the hot orange glow of flame. At least a dozen insectoid bots hovered in a perimeter around the team, awaiting an opportunity to strike. Another bot dove at Berk, its buzzsaw arms slashing wildly. Berk fired, but missed. The bot slammed into Berk's head and the buzzsaws ground into her neck. Sparks flew in all directions as metal met metal. She dropped her rifle and pushed against the body of the bot till the saws were off her neck. [Fucking run you idiots! I've got this!]

Sava fired and dropped a bot, then dashed east, leaping over spreading waist-high flames. [Make for the lounge!]

Pivo elevated onto two arms and ran behind Sava, his five remaining arms flopping wildly above his head. [Out of the way, ya poke!] Sarlo outpaced the slower octomorph, running through the flames towards the lounge.

Berk flung the frenzied bot into a flaming pile of bones, scrambled to her feet, and followed after the



group, covered in bone bits and dust, the bot swarm in whirring pursuit.

Sava reached the lounge first and the portal was open. Turning with rifle raised, Sava took cover against the door frame. Sarlo and Pivo were past the flames and Berk was closing the gap, as were the bots. Sava unloaded cover fire that sizzled over Sarlo's head, knocking another bot out, but the rest of the swarm remained unphased. They just kept coming. Suddenly, more bots appeared out of the shrinking darkness near the lounge.

[There's more! They're flanking!] Sava blasted at the new bots to try and slow down their gambit. Sarlo was only thirty feet from the portal when he tripped on a tangle of bones. His boyish body collapsed face first into the dust and human remains. Pivo made an awkward leap over him, skidded across the floor, and squished into the outer lounge wall right near the door. Sava reached out, snagged the octomorph by a arm, and dragged him into the safety of the lounge. Berk tried to stop and help Sarlo up, but her momentum was too much and her footing upon the dusty floor too unstable. She tumbled forward in a roll of dust cloud, chipped bone, and tattered rags, finally slamming into Sava in the doorway.

The three team members within the lounge gathered themselves just in time to witness a bot latch onto Sarlo's head from above as he stood up. The machine stretched two arms out to the side, then plunged their spinning blades into Sarlo's neck. Sarlo's eyes went wide and his body tensed as the saw blades ground through flesh and bone, working through his neck in seconds. The instant his head was severed from the torso, the bot swooped around and zipped off over the flames, into the dark oblivion of the far end of the hangar.

Sarlo's headless body wavered for a second, then collapsed, spurting blood in long, lazy arcs.

* * *

Pivo, Sava, and Berk sat in silence. They had managed to seal the portal into the lounge, locking out the horrors of the hangar. The headhunter bots could still be heard hovering outside the portal, occasionally clanging and grinding their blades against the sealed door.

Berk finally broke the silence. [I'm trying very hard not to think about what they're going to do with him.]

[Try harder. Sarlo knew the odds of survival were slim when he signed on. We all did.] Sava stood up.

[Should we tell him? When he resleeves?] Pivo knew this was going to set Sava off, but he blurted it anyway.

[Would that be kindness or cruelty, Pivo? And besides, there is no guarantee that any of us will survive. So who gives a shit? Whenever your last backup was, I sure hope you're not gonna miss anything since. Let's get moving.]

* * *

With Sarlo gone, Pivo took over the navigation duties. They were nearing the corporate VIP lounge, the last known location of the courier.

The team moved through dark corridors filled with headless skeletons and mummified remains. Years ago, the corporate forces defending the structure had been overrun by AI war machines, which mercilessly slaughtered everyone inside. The walls were scarred from battle, covered in dried blood. Destroyed remnants of the AI war machines littered the halls as well, haunting monuments to the few victories humanity had in their losing battle. Even as piles of scrap, the machines had a menacing presence.

[Too bad this isn't a salvage op,] Berk commented. [The autonomists could use a look at this tech. At the very least, figure out what the hypercorps might try to do with it.]

As they entered a long concourse, the remains and debris abruptly disappeared, as if cleared out.

[I'm getting some strange thermal readings here. Patterns that don't make sense,] transmitted Pivo.

[What is that supposed to mean?] Sava beamed back.

Before Pivo could give thought to "I don't know," his muse issued a chilling warning: [My nanosensors register the presence of unknown nanobots in large numbers of a highly sophisticated design, suggesting a TITAN manufacture. Countermeasures have been initiated.]

[Nanoswarm. Move! Move!] Pivo broadcasted in a panic as he launched into a full two-armed sprint. Sava and Berk followed Pivo's lead without question. They all knew the dangers of a TITAN nanoswarm. Unlike the nanobots Pivo often made, which were manufactured with particular purposes in mind, and which were neither self-sustaining or intelligent, this particular nanoswarm was autonomous, self-replicating, adaptive, and capable of making almost anything it needed. Even as they fled, individual nanosensors were measuring up the three agents, transmitting details on their morphs and gear to the rest of the swarm.

A junction came into view ahead, the pathway narrowing into a smaller tunnel. Suddenly, Pivo stopped, just a meter before the tunnel. [Do not move forward!] The others crashed to a halt.

[What the fuck Pivo!?] Sava looked back down the hall. [Fucking swarm could be finishing us as we speak!]

[My muse picked up a burst of thermal energy here. The swarm is up to something,] Pivo warned.

[But there's nothing here,] Berk replied, as she waved her hand across the tunnel entrance. Her metal hand suddenly clanged to the floor, separated from her wrist.

[Monomolecular wire.] Even though the situation grew more dire by the minute, Pivo was impressed and fascinated with the inventiveness of the alien nanotech. [It laced the door with it. Cuts through anything. Weak tensile strength though—you probably snapped it.]

[We're fucked. Let's face it.] Berk picked her severed hand off the floor. Down the hall, the nanoswarm began to take a visible shape as the nanobots accreted. The swarm was congealing into a fog, creeping closer. Berk continued, [The entirety of this port is probably filled with this shit. I'm useless at this point. These things are already all over my systems, my diagnostics are going crazy.]

[So what are you saying, Berk? You done?] Sava transmitted.

[Yeah. I'm done.] Berk shook her head in disgust. [Who knows what these little bastards have infected me with. I don't want to risk it. I'd rather resort to a clean back up. Forget this shit ever happened. You keep running if you want. I'll try to buy you some time.] Berk turned and ran directly into the fog. The nanoswarm sucked in around her immediately and the disassembly began. Berk's metal frame began to dissolve as she ran further and further away from Pivo and Sava, leaving a wispy trail of nanoswarm behind her.

[Get fucking moving fools! This isn't for my amusement! I'll see ya the next time around.] A few minutes later, Berk's signal went dead.

* * *

Sava and Pivo entered the VIP lounge. When the spaceport was overrun so many years ago, this was the site of the humans' last stand. Piles of security personnel skeletons littered the floor just inside the doorway. The charred remnants of a hopeless barricade were scattered beside the mounds of bone. Skeletons draped in torn singed civilian garb were clustered around the walls and corners, sometimes three or four deep, as if they had all scrambled as far as possible from some avatar of death in the middle of the room.

Pivo started an operation to locate the RFID tag the courier was supposedly chipped with in his left shoulder blade. The code triggered a ping within three meters. Pivo pointed a lengthy arm at a small bone pile. [He's in there somewhere.]

Sava stepped over to the pile of three skeletons and began rummaging through the bones, yanking out or snapping off all the femurs. [Goddamnit I want a cigarette. This morph has me so tweaked. Haven't I made it clear I don't smoke? Yet, every time, they sleeve me in a morph nailed with the habit.] Sava handed the bundle of bones to Pivo.

[Must be a fury thing. Should just take a few minutes to scan these for the nanoscale etching.] Pivo got to work. [Enough time for a smoke, if you want.]

[Yeah. Real funny. How about I grind you up into dust and smoke you?] Sava sat down on the floor as Pivo sent out a chuckle.

The deceased courier, whomever he was, had been entrusted with information too sensitive to transmit. No one knew the true capabilities of the TITANs to

intercept and decode, so the courier had been injected with nanobots that etched a nanoscopic encoded message directly onto one of his femur bones. However, he had never made it off the planet. His message had never been delivered.

Pivo and Sava had no idea what the information was, but someone at Firewall obviously deemed it worthy of capture. Information on the TITANs perhaps. Or some CEO's secret family recipe for pasta sauce.

[This is the one.] Pivo held out the femur to Sava and tossed the others to the floor.

[What does it say?]

[I don't know. Not sure I want to know.] Pivo continued to hold out the femur.

[Enough with the drama Pivo. Just get your nanos to read it. We need a copy of the data. If you don't want to carry, I will.]

[I'd prefer that. Thank you.] Pivo set his nanobots to work on deciphering the inscription. When they were done, the intel was transmitted directly to Sava. Pivo wanted no part of it.

[So, now what? How do we get out of here? The only way out is the way we came in, and that's suicide.] Pivo's complexion changed from a milky green to an almost royal blue. It always happened when helplessness began to settle in.

Sava did not hesitate to answer, choosing to speak as opposed to transmit. "We're not gonna leave, Pivo. Not even gonna try." Sava raised the plasma rifle and aimed it directly at Pivo's oblong head. "See you next time, calamari." Sava pulled the trigger, and a fiery bolt of plasma reduced Pivo to a twitching mass of bloody scorched cartilage atop writhing arms. The arms continued to flop on the floor in a growing pool of blood as Sava sat down next to a pile of bones and leaned against the wall.

Sava pulled out a cigarette and lit it. The first inhale was virtually orgasmic. Sava loved to smoke.

Upon exhale, Careza pinged. [Shall I contact Project Ozma?]

Yeah. Get our lady on the line.

A woman's voice, cold and harsh, entered Sava's head, so different from the soothe of Careza. [Are you prepared to deliver, Agent Sava?]

[That depends.] Sava took another drag.

[Perhaps I did not make myself clear during our initial negotiations, Agent Sava. Your options are rather limited. You are unlikely to make it off the planet alive, and we cannot afford to lose this information, nor can we afford to have it fall into the hands of your organization. You are going to have to follow through, and trust that we will do the same.]

[Either you give me her location right now, or I take your precious info with me.]

There was a long pause before the woman transmitted again. [You realize there will be consequences, Agent Sava. For you and for Rati.]

[Yeah. I suppose so.] The cigarette burned to the filter and Sava flicked it into a bone pile. [So what's it gonna be?]

[We do not bargain, Agent Sava, after a deal has been struck. Do as you will, and we will react accordingly.] The connection with the woman terminated. Sava stood up and walked over to where the courier's femur lay and picked it up. Pivo's gore coated the bone. Sava wiped it off and held it up to take a close look.

Sorry, Careza. Info payload only. Leave the ego behind.

[Understood.]

With the flash of a thought, Sava instructed Careza to activate the cortical stack's emergency farcaster—a one-shot neutrino transmitter, powered by the tiniest amount of antimatter. Sava's head exploded all over the room, taking the courier's femur with it. The information contained on the femur, however, found its way almost instantly through the blackest depths of space, landing safely onto a dedicated Firewall receiver elsewhere in the solar system.

* * *

"What's the number?"

The words dig their claws into my new vocal cords and yank themselves up and out of my parched throat. My diction is predictably poor, as it always is during the first few minutes following a resleeve. The pitch of the voice is apparent despite the mumbled, sandpaper slur of the words. Definitely a biomorph and my latest sex is female. This much I know in the first few seconds.

ENTER THE SINGULARITY ...

WHAT IS TRANSHUMANISM?

Transhumanism is one of the core concepts behind *Eclipse Phase*. Check out this quick summary of the cultural and intellectual movement.

■ **p. 18**

WHAT IS AN RPG?

Never played a tabletop roleplaying game? Check out this synopsis of what a roleplaying game is and then read the description of how they're typically played.

■ **pp. 18 & 20**

ECLIPSE PHASE

An "eclipse phase" is the period of time between when a cell is infected by a virus and when the virus appears within the cell and transforms it. During this period, the cell does not appear to be infected, but it is.

THEMES

Post-Apocalyptic, Conspiracy, and Horror themes are central to the *Eclipse Phase* setting. Read more here: ■ **p. 19**

TERMINOLOGY

There's a lot of jargon in *Eclipse Phase,* but you don't need to memorize it all—this is an open book roleplaying game! ■ **pp. 25–27**

DEFAULT CAMPAIGN: FIREWALL

In the default campaign setting, your character is an agent-on-call—a "sentinel"—for a shadow network known as Firewall. ■ **p. 22**

ENTER THE SINGULARITY

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

We humans have a special way of pulling ourselves up and kicking ourselves down at the same time. We'd achieved more progress than ever before, at the cost of wrecking our planet and destabilizing our own governments. But things were starting to look up.

With exponentially accelerating technologies, we reached out into the solar system, terraforming worlds and seeding new life. We re-forged our bodies and minds, casting off sickness and death. We achieved immortality through the digitization of our minds, resleeving from one biological or synthetic body to the next at will. We uplifted animals and AIs to be our equals. We acquired the means to build anything we desired from the molecular level up, so that no one need want again.

Yet our race toward extinction was not slowed, and in fact received a machine-assist over the precipice. Billions died as our technologies rapidly bloomed into something beyond control … further transforming humanity into something else, scattering us throughout the solar system, and reigniting vicious conflicts. Nuclear strikes, biowarfare plagues, nanoswarms, mass uploads … a thousand horrors nearly wiped humanity from existence.

We still survive, divided into a patchwork of restrictive inner system hypercorp-backed oligarchies and libertarian outer system collectivist habitats, tribal networks, and new experimental societal models. We have spread to the outer reaches of the solar system and even gained footholds in the galaxy beyond. But we are no longer solely "human" … we have evolved into something simultaneously more and different—something **transhuman**.

STARTING OUT

Eclipse Phase is a post-apocalyptic roleplaying game of transhuman conspiracy and horror. Humans are enhanced and improved, but humanity is battered and bitterly divided. Technology allows the re-shaping of bodies and minds and liberates us from material needs, but also creates opportunities for oppression and puts the capability for mass destruction in the hands of everyone. Many threats lurk in the devastated habitats of the Fall, dangers both familiar and alien.

WHAT IS A ROLEPLAYING GAME?

Have you ever read a book or seen a movie or a television show where a character does something really stupid, like heading into a basement at night when the character knows the serial killer is around? The whole time, you're thinking: "I wouldn't walk down those creepy stairs to the dark basement, especially without a flashlight. I'd do X, Y, or Z instead!" Since you're in the passenger's seat for the plot you're reading or watching, however, you simply have to sit back and let it unfold.

What if you could take hold of the driver's seat? What if you could take the plot in the direction *you'd* choose? That is the essence of a roleplaying game.

A roleplaying game (or RPG, for short) is part improvisational theater, part storytelling, and part game. A single person (the gamemaster) runs the game for a group of players that pretend to be characters in a fictitious world. The world could be a mystery game set in the 1920s that takes you adventuring around the globe, a fantasy realm inhabited by dragons and trolls and sword-wielding barbarians, or a science fiction setting with aliens and spaceship and world-crushing weaponry. The players pick a setting that they find cool and want to play in. The players then craft their own characters, providing a detailed

WHAT IS TRANSHUMANISM?

Transhumanism is a term used synonymously to mean "human enhancement." It is an international cultural and intellectual movement that endorses the use of science and technology to enhance the human condition, both mentally and physically. In support of this, transhumanism also embraces using emerging technologies to eliminate the undesirable elements of the human condition such as aging, disabilities, diseases, and involuntary death. Many transhumanists believe these technologies will be arriving in our near future at an exponentially accelerated pace and work to promote universal access to and democratic control of such technologies. In the long scheme of things, transhumanism can also be considered the transitional period between the current human condition and an entity so far advanced in capabilities (both physical and mental faculties) as to merit the label "posthuman."

As a theme, transhumanism embraces heady questions. What defines human? What does it mean to defeat death? If minds are software, where do you draw the line with programming them? If machines and animals can also be raised to sentience, what are our responsibilities to them? If you can copy yourself, where does "you" end and someone new begin? What are the potentials of these technologies in terms of both oppressive control and liberation? How will these technologies change our society, our cultures, and our lives? ■

POST-APOCALYPTIC, CONSPIRACY, AND HORROR THEMES

Several themes pervade *Eclipse Phase*, some of which the reader may not be intimately familiar with. The following helps define these themes so that as players read further into this rulebook, they gain a solid understanding of how *Eclipse Phase* builds on such themes to create its unique setting.

Post-apocalyptic is a term used to describe fiction set after a cataclysmic event has ended human civilization as we know it (usually accompanied by loss of human life on an almost unthinkable scale). The exact mechanism of the disaster is usually unimportant: nuclear war, plague, asteroid strike, and so on. The importance of the theme is the human condition. If the world we know is torn away from us and humans suffer horrors beyond imagining in this transformation to a post-apocalyptic setting, how does humanity cope? Do we survive and thrive and overcome? Or do we lose our own humanity in the process, or ultimately fall to extinction? Those are the questions that drive this genre.

To *conspire* means "to join in a secret agreement to do an unlawful or wrongful act or to use such means to accomplish a lawful end." As such, a conspiracy theory attributes the ultimate cause of an event or a chain of events (whether political, societal or historical) to a secret group of individuals with immense power (including political, wealth and so on) who hide their activities from public view while manipulating events to achieve their goals, regardless of consequences. Many conspiracy theories contend that a host of the greatest events of history were initiated and ultimately controlled by such secret organizations. Of equal importance is the silent struggle between clandestine groups, waging a secret war behind the scenes to determine who influences the future.

Horror takes many forms, but in *Eclipse Phase* it is more psychological than gore. It is the uncertainty of survival, the suspense of finding malevolent things among the stars, the fear of the unknown, the dread of facing Things That Should Not Be, the revulsion when encountering alien things, and the sickening realization of the wrong and ghastly things that transhumans are capable of doing to themselves and each other. Horror also arises both from the comprehension that there are scary things beyond our understanding inhabiting our universe and that transhumanity may be its own worst enemy. Despite all of the technological tools and advances available to future transhumans, they still face terrors like losing control of their own identities, their perceptions, and their mental faculties—not to mention their future as a species.

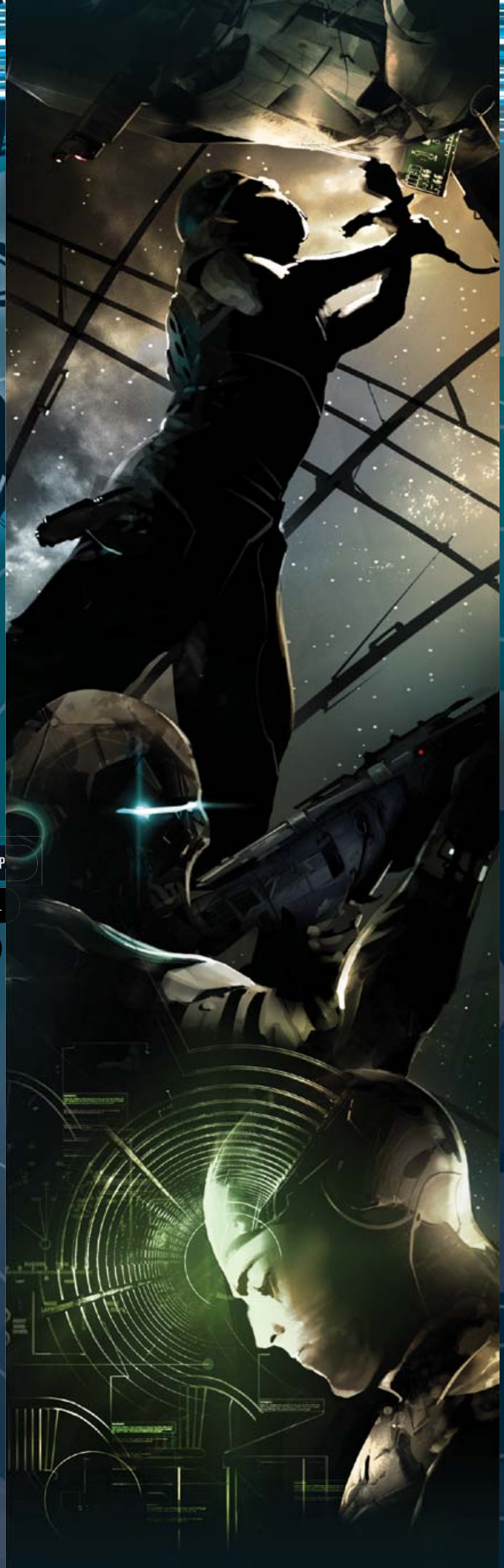
Eclipse Phase takes all of these themes and weaves them together in a transhuman setting. The post-apocalyptic angle covers the understanding of all that transhumanity has lost, the fight against extinction, and how much of that is a struggle against our own nature. The conspiracy side delves into the nature of the secret organizations that play key roles in determining transhumanity's future and how the actions of determined individuals can change the lives of many. The horror perspective explores the results of humanity's self-inflicted transformations and how some of these changes effectively make us non-human. Tying it all together is an awareness of the massive indifference and the terrible *alien-ness* that pervades the universe and how transhumanity is insignificant against such a backdrop.

Offsetting these themes, however, *Eclipse Phase* also asserts that there is still hope, that there is still something worth fighting for, and that transhumanity can pave its own path toward the future. ■

history and personality to bring each to life. These characters have a set of statistics (numerical values) that represent skills, attributes, and other abilities. The gamemaster then explains the situation in which the characters find themselves. The players, through their characters, interact with the storyline and each others' characters, acting out the plot. As the players roleplay through some scenarios, the gamemaster will probably ask a given player to roll some dice and the resulting numbers will determine the success or failure of a character's attempted action. The gamemaster uses the rules of the game to interpret the dice rolls and the outcome of the character's actions.

As a group exercise, the players control the storyline (the adventure), which evolves much like any movie or book but within the flexible plot created by the gamemaster. This gamemaster plot provides a framework and ideas for potential courses of action and outcomes, but it is simply an outline of what might happen—it is not concrete until the players become involved. If you don't want to walk down those stairs, you don't. If you think you can talk yourself out of a situation in place of pulling a gun, then try and make it happen. The script of any roleplaying session is written by the players, and the story, based upon the character's actions and their responses to the events of the plot, will constantly change and evolve.

The best part is that there is no "right" or "wrong" way to play an RPG. Some games may involve more combat and dice rolling-related situations, where other games may involve more storytelling and improvised dialogue to resolve a situation. Each group of players decides for themselves the type and style of game they enjoy playing!



SYNOP
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

BUT HOW DO YOU ACTUALLY PLAY?

To play a game of *Eclipse Phase*, you need the following:

- A group of players and a place to meet (real life or online!)
- One player to act as the gamemaster
- The contents of this book
- Something for everyone to take notes with (notepads, laptops, whatever!)
- Two 10-sided dice per player (or a digital equivalent)
- Imagination

A GROUP OF PLAYERS AND A PLACE TO MEET

While roleplaying games are flexible enough to allow any number of people, most gaming groups number around four to eight players. That number of people brings a good mix of personalities to the table and ensures great cooperative play.

Once a group of players have determined to play *Eclipse Phase,* they'll need to designate someone as the gamemaster (see below). Then they'll need to determine a time and place to meet.

Most roleplaying groups meet once a week at a regularly scheduled time and place: 7:00 PM, Thursday night, Rob's house, for example. However, each group determines where, how they'll play, and how often. One group may decide they can only get together once a month, while another group is so excited to dive into the story potential of *Eclipse Phase* that they want to meet twice a week (they decide to rotate between their houses, though, so as not to overload a particular player). If a group is lucky enough to have a favorite local gaming store that supports in-store play, the group might meet there. Other gaming groups meet in libraries, common rooms at their school, bookstores that have generously-sized "reading rooms," quiet restaurants, and so on. Whatever fits for your gaming group, make it work!

When getting together for a game, most RPGs use the phrase "gaming session." The length of each gaming session is completely dependent upon the consensus of the playing group, as well as the limitations of the locale where they're playing. The particular story that unfolds in a given session can also impact a session's length. If playing in a game store, the group may only have a four-hour slot and the gamemaster and group may have determined—through several sessions of play—that this is a perfect time frame to enjoy the story they're participating in each week. Another group, however, may want an even shorter length of time. Yet another group may decide that while they'll usually do four-hour sessions, once a month they'll set aside an entire Saturday for a great all-day gaming session. Players will need to dive in and start playing and be flexible to decide what will provide the ultimate enjoyment for their gaming group.

While the camaraderie of a shared experience of playing face-to-face with a group of friends remains

the strength of roleplaying games, groups need not confine themselves to a single mode of play. There are myriad options that can be used. Email, instant messages, message boards, video chats, phone/voip calls, text messages, wikis, (micro-)blogs: any and all of these can be utilized to play the game without having warm bodies in seats directly across the table from one another.

Finally, when playing groups meet for the first time, they should generate their characters (as opposed to generating characters by themselves). While a gaming group can decide to generate characters individually, often it is far easier once the players are together. This allows those more experienced in roleplaying games to help those new to RPGs. Even more important, it enables the entire group to tailor the characters so there is not too much overlap in capabilities and style. After all, with the wealth of character opportunities available, you don't want to show up at the table with an almost identical character to the player next to you.

The Gamemaster

Once a group has been organized, someone needs to step up and take the reins of the gamemaster. Some groups have a single gamemaster that runs all their gaming sessions month after month. Other groups rotate a gamemaster, with a single gamemaster running a given portion of the unfolding story for several sessions before handing the work off to another player. Once again, the participants should be flexible. Some groups may have the perfect person who loves the work involved and is more than willing to run session after session, while other groups may decide that they all want to take turns both as the gamemaster and as players.

The gamemaster controls the story. They keep track of what is supposed to happen when, describes events as they occur so that the players (as characters) can react to them, keep track of other characters in the game (referred to as non-player characters, or NPCs), and resolve attempts to take action using the game system. The game system comes into play when characters seek to use their skills or otherwise do something that requires a test to see whether or not they succeed. Specific rules are presented for situations that involve rolling dice to determine the outcome (see *Game Mechanics,* p. 112).

The gamemaster describes the world as the characters see it, functioning as their eyes, ears, and other senses. Gamemastering is not easy, but the thrill of creating an adventure that engages the other players' imaginations, testing their gaming skills and their characters' skills in the game world, makes it worthwhile. Posthuman Studios and Catalyst Game Labs will follow the publication of *Eclipse Phase* with supporting supplements and adventures to help this process along, but experienced gamemasters can always adapt the game universe to suit their own styles. In fact, since *Eclipse Phase* is published under a Creative Commons License (see p. 5), players are encouraged to tailor the universe to their style of play and also to share that with other players. You never know when a specific choice you've made in the running of a campaign is exactly what another gamemaster and his group is looking for.

The Contents of This Book

Whether you have purchased the print or electronic version, this book is specifically organized to present the information you need to know to start telling *your* stories in the *Eclipse Phase* universe. Below you'll find a summary of each chapter of the book.

A Time of Eclipse: A comprehensive history and setting fully describes the *Eclipse Phase* universe and how humanity transitioned from here to there. See p. 30.

Game Mechanics: The player's desired actions become reality within the universe through quick and easy-to-use game mechanics. See p. 112.

Character Creation and Advancement: Creating a unique character can be one of the most enjoyable experiences of roleplaying. Even more rewarding is watching that character evolve and grow across numerous gaming sessions, far beyond anything your imagination first envisioned. See p. 128.

Skills: Beyond a character's innate abilities, their skills are what set them apart. This is what your character knows and what they know how to do. See p. 170.

Action and Combat: What is a dramatic story without action and violence? When words fail, weapons will blaze. See p. 186.

Mind Hacks: The unusual possibilities offered by psi abilities and mental reprogramming. See p. 216.

The Mesh: The all-pervasive nature of the mesh ensures that it is a key element to any story telling. See p. 234.

Accelerated Future: The wonders of advanced technologies and how they work. See p. 266.

Gear: Personal enhancements, weapons, robots, and everything else in between. See p. 294.

Game Information: The quintessential set of insider secrets for gamemasters. See p. 350.

Taking Notes

Whether a gamemaster or player, you'll need a way to track information. Players will be generating characters and making changes to those characters from session to session. Meanwhile, the gamemaster will have a host of information to track: notes on how the story is unfolding due to player character interaction that you'll need to fold into next week's session; changes to NPCs; changes to player characters that the players are not yet aware off (such as a character has been mind hacked but doesn't yet know it); and so on.

Additionally, some groups enjoy a synopsis of each session that can be compiled and read at a later time in order to enjoy and share their exploits, just as you might fileshare clips from your favorite video game to show off your skill in taking the bad guy down (traditionally this has been called

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT

"bluebooking"). This can be particularly useful if a player was unable to attend a given session, providing a quick re-cap that they can read before attending the next gaming session and thus avoiding a bog-down up-front as that player tries to catch up on current events in the game. The session scribe can be a shared responsibility or assigned, all based upon what a given playing group finds works best for them. Likewise, some gaming groups audio-record their entire game session, both for later reference and for "actual play" podcasts.

The old standard of a pencil and paper still works wonders. A host of additional technologies, however, provide many new options for players. From a text file on a laptop to a shared wiki, the ability to track large amounts of information in a quick and useful fashion—while simultaneously making appropriate information available to each player from session to session—significantly decreases how much time everyone needs to spend tracking information. That time can now be redirected into the enjoyment of participating in a great story.

DICE

As described in the *Game Mechanics* section (p. 112), two ten-sided dice are required to play *Eclipse Phase*. While most players enjoy the feel of tossing dice onto a table, there are many other mechanisms for rolling two ten-sided dice to achieve a 00 to 99 result. Players who make heavy use of any online technologies for game play—such as using online chatting or video blogging—should find it easy to track down and implement a quick dice-rolling program.

IMAGINATION

All too often, it's easy for someone looking at an RPG to be intimidated. So many concepts to grasp, so many ideas that seem overwhelming. Just as described under *What is a Roleplaying Game?*, however, how often have you read a book or watched that movie and decided that you would have done it better? That's your imagination at work. Just dive in and you'll be amazed at how quickly you can immerse yourself in the *Eclipse Phase* universe. Soon you'll be spinning stories with the best of them.

Also, don't forget to tap your resources. Your gaming group is your best resource. What's going on, ideas for how to handle a situation, or how to take on a bad guy: these are just some of the things that can and should be discussed by the gaming group in between sessions, and each is an opportunity to strengthen your imagination.

Another resource is simply watching TV or reading a good book. Pay attention to how the story is put together, how the characters are built, and how the plot unfolds. Push your imagination and soon you'll be figuring out subplots and who the bad guy is long before it's revealed. Knowing how a story is put together enables you to put together your own stories during each gaming session.

Finally, eclipsephase.com is the official site for *Eclipse Phase*. If you have questions about the game or want to see how another group of players handles a given situation, post on the forums. The online community can be just as helpful and enjoyable as a local gaming group.

WHAT DO PLAYERS DO?

The players can take on a variety of roles in *Eclipse Phase*. Due to advances in digital mind emulation technology, uploading, and downloading into new morphs (physical bodies, biological or synthetic), it is possible to literally be a new person from session to session. With bodies taking on the role of gear, players can customize their forms for the task at hand.

THE DEFAULT CAMPAIGN

In the default story (also known as "campaign setting"), every player character is a "sentinel," an agent-on-call (or potential recruit) for a shadowy network known as "Firewall." Firewall is dedicated to counteracting "existential risks"—threats to the existence of transhumanity. These risks can and do include biowar plagues, nanotech swarm outbreaks, nuclear proliferation, terrorists with WMDs, net-breaking computer attacks, rogue AIs, alien encounters, and so on. Firewall isn't content to simply counteract these threats as they arise, of course, so characters may also be sent on information-gathering missions or to put in place pre-emptive

or failsafe measures. Characters may be tasked to investigate seemingly innocuous people and places (who turn out not to be), make deals with shady criminal networks (who turn out not to be trustworthy), or travel through a Pandora's Gate wormhole to analyze the relics of some alien ruin (and see if the threat that killed them is still real). Sentinels are recruited from every faction of transhumanity; those who aren't ideologically loyal to the cause are hired as mercenaries. These campaigns tend to mix a bit of mystery and investigation with fierce bouts of action and combat, also stirring in a nice dose of awe and horror.

Alternate Campaigns

When they're not saving the solar system, sentinels are free to pursue their own endeavors. The gamemaster and players can use this rulebook to generate any type of story they wish to tell. However, the following examples provide a brief look at the most obvious opportunities for adventure in *Eclipse Phase*.

After each campaign variant below, a list of "archetypes" for *Eclipse Phase* are provided in parenthesis. Archetypes are the names applied to the most common character types featured in those scenarios. For example, in a traditional detective story, the archetypes would be the Detective, the Damsel In Distress, the Hard-bitten Cop, and so on. In a cowboy movie, the archetypes would be the Gunfighter, the Bartender, the Marshal, the Indian Brave, and so on. Players will note that some archetypes fit into multiple story settings. The character creation system (p. 128) allows players to create any of the suggested archetypes. Just as roleplaying games are designed for players to build their own stories, however, these archetypes are just suggestions and players can mix and match how they will.

Salvage and Rescue/Retrieval Ops: The Fall left two worlds and numerous habitats in ruins—but these devastated cities and stations contain untold riches for those who are brave and foolhardy enough. Potential hauls include: weapon systems; physical resources; lost databanks; left-behind uploads of friends, family, or important people; new technologies developed and lost in the brief singularity takeoff; valued heirlooms of immortal oligarchs; and much more. Outside of these once-inhabited realms, space itself is a big place and lots of people and things get lost out there. Some need to be saved and some are beyond saving. This option lets players explore the unknown or seek out specific targets on contract. (Archeologist/Scavenger/Pirate/Free Trader/Smuggler/Black Marketeer)

Exploration: There are plenty of opportunities to be had as an explorer, colonist, or long-range scout—perhaps even as one of the few lucky or suicidal individuals who explore through an untested Pandora's Gate. Even the Kuiper Belt, on the fringe of our solar system, is still sparsely explored; there may be riches and mysteries still to be found. Many dangers also lurk in odd corners of the system, from isolationist posthuman factions to secretive criminal cartels, as well as pirates, aliens, and others wishing to remain out of sight. (Explorer/Archeologist/Scavenger/Singularity Seeker/Techie/Medic)

Trade: While the majority of inner system trade is controlled by sleek hypercorporations, many of the smaller or more independent stations rely on small traders. In the post-scarcity outer system, trade takes on a different form, with information, favors, and creativity serving as currency among those who no longer want for anything due to the availability of cornucopia machines. (Free Trader/Smuggler/Black Marketeer/Pirate)

Crime: The patchwork of city-state habitats and widely varying laws throughout the system create ample opportunity for those who would make a living from this situation. Black market commodities and activities include infomorph-slave trading, pleasure pod sex industries, data brokerage and theft, extracting/smuggling advanced technologies and scientists, political/economic espionage, assassination, drug and XP dealing, soul-trading, and much more. Whether as an independent or part of an organized criminal element, there are always opportunities for those with a thirst for adventure or profit and questionable morals. (Criminal/Smuggler/Pirate/Fixer/Black Marketeer/Genehacker/Hacker/Covert Ops)

Mercenaries: The constant maneuvering of ideologically-driven factions, the squabbling over contested resources, and the rush to colonize new exoplanets beyond the Pandora Gates all spark new conflicts on a regular basis. Some of these simmer and seeth as low-intensity conflicts for years, occasionally flaring into raids and clashes. Others break out into all-out warfare. Women and men willing to bear arms for credits are always in demand for good wages. Players can engage in commando and military campaigns in habitats, between the stars, or in hostile planetary environments. (Merc/Security Specialist/Fixer/Bounty Hunter/Ex-Cop/Medic)

Socio-Political Intrigue: The corporations and political factions that span the solar system do not always play nice with each other, but neither is it wise for them to openly confront each other except under extreme circumstances. Many battles are fought with diplomacy and political maneuvering, using words and ideas more potent than weapons. Even within factions, social cliques can compete ruthlessly, or heated class conflicts can come to a boil, tearing a society apart from within. In this campaign, the players can start as pawns of some entity who rise through the ranks as they become more enmeshed in the intrigues of their sponsor, play a group of ambassadors and spies stationed in the opposition's capital, or can play a group of activists and radicals fighting for social change. (Politico/Socialite/Covert Ops/Hacker/Security Specialist/Journalist/Memeticist)

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

WHERE DOES IT TAKE PLACE?

While *Eclipse Phase* is set in the not-too-distant future, the changes that have taken place due to the advancements of technology have transformed the Earth and its inhabitants almost beyond recognition. As players dive into the universe, they'll generally encounter one of the following settings.

HUMANITY'S HABITATS

The Earth has been left an ecologically-devastated ruin, but humanity has taken to the stars. When Earth was abandoned, so too were the last of the great nation-states; transhumanity now lacks a single unifying governing body and is instead subject to the laws and regulations of whomever controls a given habitat.

The majority of transhumanity is confined to orbital habitats or satellite stations scattered throughout the Sol system. Some of these were constructed from scratch in the orbit or Lagrange points of planetary bodies, others have been hewn out of solid satellites and large asteroids. These stations have myriad purposes from trade to warfare, espionage to research.

Mars continues to be one of transhumanity's largest settlements, though it too, suffered heavily during the Fall. Numerous cities and settlements remain, however, though the planet is only partially terraformed. Venus, Luna, and Titan are also home to significant populations. Additionally, there are a small number of colonies that have been established on exoplanets (on the other side of the Pandora Gates) with environments that are not too hostile towards humanity.

Some transhumans prefer to live on large colony ships or linked swarms of smaller spacecraft, moving nomadically. Some of these rovers intentionally exile themselves to the far limits of the solar system, far from everyone else, while others actively trade from habitat to habitat, station to station, serving as mobile black markets.

THE GREAT UNKNOWN

The areas of the galaxy that have felt the touch of humanity are few and far between. Lying betwixt these occasional outposts of questionable civilization are mysteries both dangerous and wonderful. Ever since the discovery of the Pandora Gates, there has been no shortage of adventurers brave or foolhardy enough to strike out on their own into the unknown regions of space in hopes of finding more alien artifacts, or even establishing contact with one of the other sentient races in the universe.

THE MESH

While not a "setting" in the traditional sense, as the sections describe above, the computer networks known as the "mesh" are all-pervasive. This ubiquitous computing environment is made possible thanks to advanced computer technologies and nanofabrication that allow unlimited data storage and near-instantaneous transmission capacities. With micro-scale, cheap-to-produce wireless transceivers so abundant, literally everything is wirelessly connected and online. Via implants or small personal computers, characters have access to archives of information that dwarf the entire 21st-century internet and sensor systems that pervade every public place. People's entire lives are recorded and lifelogged, shared with others on one of numerous social networks that link everyone together in a web of contacts, favors, and reputation systems.

EGO VS. MORPH

The distinction between ego (your mind and personality, including memories, knowledge, and skills) and morph (your physical body and its capabilities) is one of the defining characteristics of *Eclipse Phase*. A good understanding of the concept right up front will allow players a glimpse at all the story possibilities out of the gate.

Your body is disposable. If it gets old, sick, or too heavily damaged, you can digitize your consciousness and download it into a new one. The process isn't cheap or easy, but it does guarantee you effective immortality—as long as you remember to back yourself up and don't go insane. The term *morph* is used to describe any type of form your mind inhabits, whether a vat-grown clone sleeve, a synthetic robotic shell, a part-bio/part-synthetic "pod," or even the purely electronic software state of an infomorph.

A character's morph may die, but the character's ego may live on, assuming appropriate backup measures have been taken. Morphs are expendable, but your character's ego represents the ongoing, continuous life path of your character's mind and personality. This continuity may be interrupted by an unexpected death (depending on how recently the backup was made), but it represents the totality of the character's mental state and experiences.

Some aspects of your character—particularly skills, along with some stats and traits—belong to your character's ego and so stay with them throughout the character's development. Some stats and traits, however, are determined by morph, as noted, and so will change if your character leaves one body and takes on another. Morphs may also affect other skills and stats, as detailed in the morph description.

WHERE TO GO FROM HERE?

Now that you know what this game is about, we suggest that you next read the *Time of Eclipse* chapter (p. 30), to get a feel for the game's default setting (which you are, of course, free to change to suit your whims). Then read the *Game Mechanics* chapter (p. 112) to get a grasp of the rules. After that, you can move on to *Character Creation and Advancement* (p. 128) and create your first character!

TERMINOLOGY

Eclipse Phase uses a host of jargon to simply convey the numerous concepts covered within the pages of this book. While not all-inclusive, this list of terminology will allow players to quickly acclimate themselves for their journey into *Eclipse Phase*. If you read something and are confused, don't worry. These concepts are fully explained in later sections of this book.

Note that several of the words on this list are standard scientific terms, often used in astronomy. As *Eclipse Phase* attempts to remain as close to "hard science" as possible—while allowing players to interact with the great stories waiting to unfold—such terms are used liberally.

- **Aerostat:** A habitat designed to float like a balloon in a planet's upper atmosphere.
- **AF:** After the Fall (used for reference dating).
- **AGI:** Artificial General Intelligence. An AI that has cognitive faculties comparable to that of a human or higher. Also known as "strong AI" (differentiating from more specialized "weak AI"). See also "seed AI."
- **AI:** Artificial Intelligence. Generally used to refer to weak AIs; i.e., AIs that do not encompass (or in some cases, are completely outside of) the full range of human cognitive abilities. AIs differ from AGIs in that they are usually specialized and/or intentionally crippled/limited.
- **Anarchist:** Someone who believes government is unnecessary, that power corrupts, and that people should control their own lives through self-organized individual and collective action.
- **Arachnoid:** A spider-like robotic synthmorph.
- **Argonauts:** A faction of techno-progressive scientists that promote responsible and ethical use of technology.
- **AR:** Augmented Reality. Information from the mesh (universal data network) that is overlaid on your real-world senses. AR data is usually entoptic (visual), but can also be audio, tactile, olfactory, kinesthetic (body awareness), emotional, or other types of input.
- **Async:** A person with psi abilities.
- **AU:** Astronomical unit. The distance between the Earth and the Sun, equal to 8.3 light minutes, or about 150 million kilometers.
- **Autonomists:** The alliance of anarchists, Barsoomians, Extropians, scum, and Titanians.
- **Barsoomian:** A rural Martian, typically resentful of hypercorp control.
- **Basilisk Hack:** An image or other sensory input that affects the brain's visual cortex and pattern recognition abilities in such a way as to cause a glitch and possibly exploit it and rewrite neural code.
- **Beehive:** A microgravity habitat made from a tunneled-out asteroid or moon.
- **BF:** Before the Fall (used for reference dating).
- **Bioconservative:** An anti-technology movement that argues for strict regulation of nanofabrication, AI, uploading, forking, cognitive enhancements, and other disruptive technologies.
- **Biomorph:** A biological body, whether a flat, splicer, genetically engineered transhuman, or pod.
- **Body Bank:** A service for leasing, selling, acquiring, or storing a morph. Aka dollhouse, morgue.
- **Bots:** Robots. AI-piloted synthetic shells.
- **Bracewell Probe:** A type of autonomous monitoring deep-space probe meant to make contact with alien civilizations.
- **Brinkers:** Exiles who live on the fringes of the system, as well as other isolated and well-hidden nooks and crannies. Also called isolates, fringers, drifters.
- **Case:** A cheap, common, mass-produced synthetic shell.
- **Chimeric:** Transgenic, containing genetic traits from other species.
- **Circumjovian:** Orbiting Jupiter.
- **Circumlunar:** Orbiting the Moon.
- **Circumsolar:** Orbiting the Sun.
- **Cislunar:** Between the Earth and the Moon.
- **Clade:** A species or group of organisms with common features. Used to refer to transhuman subspecies and morph types.
- **Cole Bubble:** A habitat made from a hollowed-out asteroid or moon, spun for gravity.
- **Cornucopia Machine:** A general-purpose nanofabricator.
- **Cortical Stack:** An implanted memory cell used for ego backup. Located where the spine meets the skull; can be cut out.
- **Cyberbrain:** An artificial brain, housing an ego. Used in both synthmorphs and pods.
- **Darkcast:** Illegal and black market farcasting and egocasting services.
- **Domain Rules:** The rules that govern the reality of a virtual reality simulspace.
- **Drone:** A robot controlled through teleoperation (rather than directly via onboard AI).
- **Ecto:** Personal mesh devices that are flexible, stretchable, self-cleaning, translucent, and solar-powered. From ecto-link (external link).
- **Ego:** The part of you that switches from body to body. Also known as ghost, soul, essence, spirit, persona.
- **Egocasting:** Term for sending egos via farcasting.
- **Entoptics:** Augmented-reality images that you "see" in your head. ("Entoptic" means "within the eye.")
- **ETI:** Extraterrestial intelligence. The term Firewall uses to refer to the god-like post-singularity alien intelligence theorized to be responsible for the Exsurgent virus.
- **Exalts:** Genetically-enhanced humans (between genefixed and transhumans). Aka genefreaks, the ascended, the elevated.
- **Exoplanet:** A planet in another solar system.
- **Exsurgent:** Someone infected by the Exsurgent virus.
- **Exsurgent Virus:** The multi-vector virus created by an unknown ETI and seeded throughout the galaxy in Bracewell probes. The Exsurgent virus is self-morphing and can infect both computer systems and biological creatures.
- **Extrasolar:** Outside the solar system.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

- **Factors:** The alien ambassadorial race that deals with transhumanity. Also called Brokers.
- **The Fall:** The apocalypse; the singularity and wars that nearly brought about the downfall of transhumanity.
- **Farcasting:** Intrasolar communication utilizing classical communication technologies (radio, laser, etc.) and quantum teleportation.
- **Farhauler:** Long distance space shipper.
- **Firewall:** The secret cross-faction conspiracy that works to protect transhumanity from "existential threats" (risks to transhumanity's continued existence).
- **Flatlander:** Someone born or used to living on a planet or moon with gravity.
- **Flats:** Baseline humans (not genetically modified). Also called norms.
- **Flexbot:** A shape-changing synthmorph also capable of joining together with other flexbots in a modular fashion to create larger shapes.
- **Forking:** Copying an ego. Not all forks are full copies. AKA backups.
- **FTL:** Faster-Than-Light.
- **Fury:** A transhuman combat morph.
- **Gatecrashers:** Explorers who take their chances using a Pandora gate to go somewhere previously unexplored.
- **Genehacker:** Someone who manipulates genetic code to create genetic modifications or even new life.
- **Ghost:** A transhuman combat morph optimized for stealth and infiltration.
- **Ghost-riding:** The act of carrying an infomorph in a special implant module inside your head.
- **Greeks:** Trojan asteroids or moons that share the same orbit as a larger planet or moon, but are 60 degrees ahead in the orbit at the L4 Lagrange point. The term Greeks normally refers to the asteroids orbiting around Jupiter's L4 point. See also "Trojans."
- **Habtech:** A habitat technician.
- **Heliopause:** The point where pressure from the solar wind balances with the interstellar medium (about 100 AU out).
- **Hibernoid:** A transhuman modified for hibernation, for extensive travel in space.
- **Iceteroid:** An asteroid made from mostly ice rather than rock or metals.
- **Iktomi:** The name given to the mysterious alien race whose relics have been found beyond the Pandora Gates.
- **Indentures:** Indentured servants who have contracted their labor to a hypercorp or other authority, usually in exchange for a morph.
- **Infolife:** Artificial general intelligences and seed AIs.
- **Infomorph:** A digitized ego; a virtual body. Also known as datamorphs, uploads, backups.
- **Infugee:** "Infomorph refugee," or someone who left everything behind on Earth during the Fall—even their own body.
- **Isolates:** Those who live in isolated communities far outside the system (in the Kuiper Belt and Oort Cloud); aka outsters, fringers.
- **Jamming:** The act of "becoming" a teleoperated drone thanks to XP technology. Also sometimes applied to accesing the real-time XP feed from lifeloggers and others.
- **Kuiper Belt:** A region of space extending from Neptune's orbit out to about 55 AU, lightly populated with asteroids, comets, and dwarf planets.
- **Lagrange Point:** One of five areas in respect to a small planetary body orbiting a larger one in which the gravitational forces of those two bodies are neutralized. Lagrange points are considered stable and ideal locations for habitats.
- **Lifelog:** A recording of one's entire life experience, made possible due to near unlimited computer memory.
- **Lost Generation:** In an effort to repopulate post-Fall, a generation of children were reared using forced-growth methods. The results were disastrous: many died or went insane, and the rest were stigmatized.
- **Main Belt:** The main asteroid belt, a torus ring orbiting between Mars and Jupiter.
- **Meme:** A viral idea.
- **Mentons:** Transhumans optimized for mental and cognitive ability.
- **Mercurials:** The non-human sentient elements of the transhuman "family," including AGIs and uplifted animals.
- **Mesh:** The omnipresent wireless mesh data network. Also used as a verb (to mesh) and adjective (meshed or unmeshed).
- **Mesh ID:** The unique signature attached to one's mesh activity.
- **Microgravity:** Zero-g or near weightless environments.
- **Mist:** The clouds of AR data that sometimes fog up your perception/displays.
- **Morph:** A physical body. Aka suit, jacket, sleeve, shell, form.
- **Muse:** Personal AI helper programs.
- **Nanobot:** A nano-scale machine.
- **Nano-ecology:** Pro-tech ecological movement.
- **Nanoswarm:** A mass of tiny nanobots unleashed into an environment.
- **Neo-Avians:** Uplifted ravens and gray parrots.
- **Neogenesis:** The creation of new life forms via genetic manipulation and biotechnology.
- **Neo-Hominids:** Uplifted chimpanzees, gorillas, and orangutans.
- **Neotenics:** Transhumans modified to retain a child-like form.
- **Novacrab:** A pod created from genetically-engineered spider crab stock.
- **Olympian:** A transhuman biomorph modified for athleticism and endurance.
- **O'Neill Cylinder:** A soda-can shaped habitat, spun for gravity.
- **Oort Cloud:** The spherical "cloud" of comets that surrounds the solar system out to about one light-year from the sun.

- **PAN:** Personal area network. The network created when you slave all of your minor personal electronics to your ecto or mesh inserts.
- **Pandora Gates:** The wormhole gateways left behind by the TITANs.
- **Pods:** Mixed biological-synthetic morphs. Pod clones are force-grown and feature computer brains. Also known as bio-bots, skinjobs, replicants. From "pod people."
- **Posthuman:** A human or transhuman individual or species that has been genetically or cognitively modified so extensively as to no longer be human (a step beyond transhuman). Aka parahuman.
- **Prometheans:** A group of transhuman-friendly seed AIs that were created by the Lifeboat Project (precursors to the argonauts) years before the TITANs became self-aware and that (mostly) avoided Exsurgent infection. The Prometheans secretly back Firewall and work to defeat existential threats.
- **Proxies:** Members of the Firewall internal structure.
- **Psi:** Parapsychological powers acquired due to infection by the Watts-MacLeod strain of Exsurgent virus.
- **Reaper:** A warbot synthmorph.
- **Reclaimers:** A transhuman faction that seeks to lift the interdiction and reclaim Earth.
- **Redneck:** A rural Martian. See Barsoomian. Aka Reds.
- **Reinstantiated:** Refugees from Earth who escaped only as bodiless infomorphs, but who have since been resleeved.
- **Resleeving:** Changing bodies, or being downloaded into a new one. Also called remorphing, reincarnation, shifting, rebirthing.
- **Rusters:** Biomorphs optimized for life on Mars.
- **Scorching:** Hostile programs that can damage or affect cyberbrains.
- **Scum:** The nomadic faction of space punks/gypsies that travel from station to station in heavily-modified barges or swarms of ships. Notorious for being a roving black market.
- **Seed AI:** An AGI that is capable of recursive self-improvement, allowing it to reach god-like levels of intelligence.
- **Sentinels:** Agents of Firewall.
- **Shell:** A synthetic physical morph. Aka synthmorph.
- **Simulmorph:** The avatar you use in VR simulspace programs.
- **Simulspace:** Full-immersion virtual reality environments.
- **Singularity:** A point of rapid, exponential, and recursive technological progress, beyond which the future becomes impossible to predict. Often used to refer to the ascension of seed AI to god-like levels of intelligence.
- **Singularity Seeker:** People who pursue relics and evidence of the TITANs or other possible avenues to super-intelligence, either to learn more about it or to become part of a super-intelligence themselves.
- **Skin:** A biological physical morph. Aka meat, flesh.
- **Skinning:** Changing your perceived environment via augmented reality programming.
- **Sleight:** A psi power.
- **Slitheroid:** A snake-like robotic synthmorph.
- **Smart Animals:** Partially-uplifted animal species (including dogs, cats, rats, and pigs). Some other large smart animals (whales, elephants) are nearly extinct.
- **Spime:** Meshed, self-aware, location-aware devices.
- **Splicers:** Humans that are genetically modified to eliminate genetic diseases and some other traits. Also known as genefixed, cleangenes, tweaks.
- **Swarmanoid:** A synthetic morph composed from a swarm of tiny insect-sized robots.
- **Sylphs:** Transhuman biomorphs with exotic good looks.
- **Synthmorph:** Synthetic morphs. Robotic shells possessed by transhuman egos.
- **Synths:** A specific type of synthmorph. Synths are standard androids/gynoids; robots that are designed to look humanoid, though they are usually noticeably not human.
- **Teleoperation:** Remote control.
- **Titanian:** Someone from Titan, a moon of Saturn.
- **TITANs:** The human-created, recursively-improving, military seed AIs that underwent a hard-takeoff singularity and prompted the Fall. Original military designation was TITAN: Total Information Tactical Awareness Network.
- **Torus:** A donut-shaped habitat, spun for gravity.
- **Transgenic:** Containing genetic traits from other species.
- **Transhuman:** An extensively modified human.
- **Trojans:** Asteroids or moons that share the same orbit as a larger planet or moon, but follow about 60 degrees ahead or behind at the L4 and L5 Lagrange points. The term Trojans normally refers to the asteroids orbiting at Jupiter's Lagrange points, but Mars, Saturn, Neptune, and other bodies also have Trojans. See also "Greeks."
- **Uplifting:** Genetically transforming an animal species to sapience.
- **Vacworker:** Space laborer.
- **Vapor:** A failed mind emulation or crippled fork/infomorph (from vaporware).
- **VPNs:** Virtual private networks. Networks that operate within the mesh, usually encrypted for privacy/security.
- **VR:** Virtual Reality. Imposing an artificially-constructed hyper-real reality over one's physical senses.
- **X-Caster:** Someone who transmits/sells XP recordings of their experiences.
- **Xenomorph:** Alien life form.
- **Xer:** As in "X-er"—someone who is addicted or obsessed with XP. Sometime used to refer to people making XP as well.
- **XP:** Experience Playback. Experiencing someone else's sensory input (in real-time or recorded). Also called experia, sim, simsense, playback.
- **X-Risk:** Existential risk. Something that threatens the very existence of transhumanity.
- **Zeroes:** People without wireless mesh access. Common with some indentures.

WELCOME TO FIREWALL

[Incoming Message Received. Source: Unknown]
[Quantum Analysis: No Interception Detected]
[Decryption Complete]

Greetings,

Your references and background have been triple-checked and confirmed, and you are now vetted as a sentinel operative. Welcome to Firewall, friend.

For those new to our private network, Firewall is an organization dedicated to protecting transhumanity from threats—both internal and external—to our continued existence as a species. The Fall may have reminded us that our ability to survive and prosper is not guaranteed, but our kind has a remarkably short attention span. Despite our achievement of functional near-immortality, we continue to face numerous dangers that may contribute to our extinction. Some of these risks come from our own factionalism and divisiveness, combined with universally available technology that could cause widespread destruction and untold deaths in the wrong hands. Some stem from our short-sightedness, failing to see the dangers in which we place ourselves and our environments through careless actions. Some arise from our own creations turned against us, as the TITANs proved. Other risks may come from alien intelligences whose motivations we cannot yet fathom, and of whom we may not even be aware. Still others may threaten us by sheer chance and the mindless but deadly cause-and-effect of a universe in which we are but an insignificant speck.

Firewall exists to identify, analyze, and counter these risks. We are all volunteers. We are all placing our own lives at risk in order to ensure the survival of transhumanity.

Firewall has existed, under other names and guises, since before the Fall. Numerous agencies with a similar agenda banded together in the wake of those cataclysmic events to assess our situation and prepare for the worst. Now we operate under a single umbrella.

We are a private network for two reasons. First, our existence and operational abilities are protected by our secrecy. The less our opposition knows about us, the more effectively we can counter them. Similarly, certain authorities might be hostile to an organization such as ours operating in their claimed territory. Though some may be aware of our existence, we bypass numerous legal and jurisdictional hurdles that might otherwise hamper our actions and goals. Second, our mission sometimes brings to light information that is not only dangerous in the wrong hands, but might even trigger widespread panic if made public. In some cases, the very existence of such knowledge could be problematic. By retaining secrecy and operating on a need-to-know basis, we automatically counter certain risks.

Firewall is a decentralized, peer-to-peer network. We have minimal hierarchy and we answer to no one but ourselves. Our node structure enables us to share resources and talents without sacrificing the privacy and security of our operatives.

You have been recruited because of your knowledge, assets or skills, and/or because you have come into contact with certain restricted data. You have proven your willingness to support our goals. Our lives and existence—and the future of transhumanity—may rest in your hands.

So here's to the future—may we all live to see it.

[End Message]
[This Message Has Self-Erased]

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

[Incoming Message Received. Source: Unknown]
[Quantum Analysis: No Interception Detected]
[Decryption Complete]
Sit down, and grab yourself a fucking drink.

Forget all of that AI-generated intro crap you just read. Here's the real deal.

You're probably dying to know what you've been dragged into. Maybe you've been told the party line already: that we're all that stands between transhumanity and extinction. Or maybe someone whispered to you that we're a rogue operation that meddles in heavy shit that we have no authority to get involved in, and that we sometimes get people killed as a result. You must be curious. Maybe you've got a vigilante streak, and you're looking to spill blood for a good cause. Would it matter to you if the cause was a deluded one? Maybe you're a conspiracy wingnut and you're dying to know what secrets Firewall is clutching to its collective chest. What if those secrets shattered the carefully constructed lies that we all tell to ourselves to keep our sanity intact?

Everything you've heard, good or bad, about Firewall very well may be true. We're not angels. We lost the sheen on our ideals when the TITANs forcibly uploaded their first human mind. Right now, you should be asking yourself what the fuck you just signed up for. I did.

Truth is, Firewall is lots of things. Most of it is good, but a lot of it so fucking horrible you'll be thinking about planting a bullet in your stack and resorting to an earlier backup, just so you can forget it all. If you have any romantic visions about being a hero, though, drop them now. You won't feel like a hero when you airlock some kid because he's carrying an infectious nanovirus. You won't feel brave when you run across some alien *thing* and crap your pants. And you won't even feel human anymore when you make a call that will cost dozens, hundreds, or even thousands of people their lives, even if you are saving millions more.

So why would anyone be crazy enough to be part of this thing? Because it needs to be done. Our survival depends on it. To some people, it's altruism, defending transhumanity. But really, it's about saving your own fucking neck too. Sure, you could abstain from taking responsibility and let some self-described authority take care of it. But if the anarchists have anything right, it's that people in power can't be trusted. As often as not, they're part of the problem. So Firewall does things the collective way. We're underground, but we're an open source operation. We share information and resources towards a common goal. We organize in networked ad-hoc cells, smart-mob style. We don't let anyone accrue too much power or control. Everyone involved in an op has an equal say. We police ourselves. We come from all sorts of backgrounds and factions, but we face a common enemy—and we fight to win. There is no alternative.

Maybe you've heard of the Fermi Paradox? That question asked why, with a galaxy so huge, there were so few signs of other life? Even though we've met the Factors and seen evidence of other aliens, our galactic neighborhood should be crawling with intelligence—but it's not.

I'll tell you why. The universe is not fucking fair. If transhumanity were wiped out, the galaxy wouldn't even notice. Just look at the Earth. That planet still exists, still supports life, even though we're far gone. Reality is an uncaring asshole. Forget all that utopian crap about living forever. We'll be lucky to survive another year. We've developed technologies that put weapons of mass destruction in the hands of everyone, but we're still an adolescent species that has trouble overcoming petty tribal bullshit. If you're really looking forward to exploring the universe as a postmortal, you're going to have to work hard at it. Survival isn't a right, it's a privilege.

When you sign up with Firewall, you put yourself on call. Anytime some shit goes down in your neck of the woods or that you might be particularly helpful in dealing with, you'll get a call. You'll be expected to drop whatever you're doing and put everything else on hold as if your life depended on it—it probably does. When you're in the field, on an op—"going to the doctor," as we call it—your cell is empowered to act as it sees fit … just keep in mind that you'll be answering to the rest of us later. You'll also have the Firewall network to back you up—though resources are often limited, so don't expect us to always save your ass. Other sentinels can be called on to pull strings, but every time we do so, it threatens to unveil an agent, create a trail that we need to clean up, and otherwise complicates matters. Self-reliance is key.

One last thing: don't ever, ever forget that we have enemies. I'm not just talking about the nutjob who wants to nuke a habitat to make a political statement or the neo-luddites who think biowar plagues will teach us all a lesson, I'm talking about the agencies that know Firewall exists and consider it a threat. If they tag you as a sentinel, your days are numbered. Maybe your backups too. So watch yer friggin' back.

So that's the real deal, as honest as I can give it. Welcome to our secret clubhouse, comrade. Remember: death is just another day on the job.

[End Message]
[This Message Has Self-Erased] ✤

A TIME OF ECLIPSE

TIMELINE

A one-page listing of important events, both pre- and post-Fall. ■ **p. 37**

HABITATS

With the Earth destroyed, transhumanity now resides in various types of space habitats or settlements on planets, moons, or asteroids. ■ **pp. 66 and 86**

POLITICS

A major ideological and memetic conflict is underway between the capitalist cyberdemocracies of the inner system and the libertarian autonomists of the outer system. Read more about their differences here. ■ **p. 55**

ECONOMY

Three economies exist—the Old Economy, based on industrial consumer capitalism; the Transitional Economy, with both publicly- and privately-owned cornucopia machines; and the New Economy, where most people can freely use cornucopia machines to create goods as long as they possess the material components. ■ **p. 61**

AROUND THE UNIVERSE

Explore different parts of the universe; read an overview of the solar system, check out the map, or learn about exotic extrasolar systems. ■ p. 86

System Gazeteer ■ p. 86
Star Map ■ p. 87
Extrasolar Systems ■ p. 109

FACTIONS

Transhumanity is a fractured species, divided into numerous cultural and socio-economic groups and classes, each competing for influence on their collective future. ■ p. 70

Hypercorps ■ p. 70
Political Blocs ■ p. 70
Socio-Political Movements ■ p. 74
Religious Groups ■ p. 82
Criminal Factions ■ p. 83
Firewall ■ p. 84

TECHNOLOGY

Pervasive advanced technologies have profoundly affected people's daily lives, from the wireless mesh and personal AI muses to backups, egocasting, and morphs. ■ p. 45

PANDORA GATES

These mysterious wormhole gates allow instantaneous travel to distant star systems, opening the galaxy's door to transhumanity. Presumed to be artifacts abandoned by the TITANs, are these devices a danger or an opportunity? ■ p. 46

2

A TIME OF ECLIPSE

This chapter provides a complete overview of the *Eclipse Phase* universe. It starts with a history, goes into detail on the setting, covers factions, and then wraps up with a system gazetteer.

The following is a transcript of a recovered audiofile recovered after the catastrophic decompression event on Walther-Pembroke Station. The audiofile is believed to have been created by Donovan Astrides and to be a summation of his unpublished work *A People's History of an Unfortunate Universe.* ■

A PEOPLE'S HISTORY OF AN UNFORTUNATE UNIVERSE

[Sounds of scratching on the microphone, creaking of furniture, the noise of a woman clearing her throat]

What?

[Indistinct murmuring]

Fuck you. I do this how the fuck I want, though it was nice of you to put me in this nice young woman's body.

[Sounds of hands running along fabric]

Does my vulgarity shock you, corporate lackey? No matter, I'm sure you can edit it out for your proles. Now—you asked about my book? Is it a history book you ask? No. It is an anti-history book. I shall tell you about the future.

[Mumbling, questioning tone]

What does it hold? The future, you mean?

[Indistinct "Yes."]

No. I don't think you care about the future. What you really want to know is: will you get the future you want? And that is an easy question to answer. No. No, you will not get the future you want. Because you are stupid enough to ask this stupid question about the future.

[Silent pause]

I remember reading a scan of an old real print comic once. The character in it was railing against the imaginary people of his imaginary world, taking them to task about their dissatisfaction with the future they lived in. But it was really aimed at the stupid people who wanted their stupid little futures and who were too stupid to see that the future is now. It's always now. Except it isn't anymore. The TITANs changed that. The future is now yesterday, and last week, and ten years ago. Especially ten years ago. But the future is also back on poor old Earth—it's a legacy of where we've been and what has come before.

Do they teach you history on Venus, in your sealed compounds and resort aerostats? No, don't open your mouth, I could really care less what they teach you. For it is most certainly lies. I've lived in the inner system. I know the rules and the deceits told in the name of civil order and "national security."

Nations! Ha! Even at the onset of the 21st century, nations were starting to go into decline. It just took everyone a while to realize they were obsolete.

Do you remember the great nations of the world? Are you old enough to remember how they sat around and debated whether the major climate shifts they were creating were even real? Even when many of them agreed that something needed to be done, none of them stood up to do it. The leaders of the world carried on with business as usual, secure in their privilege, as droughts ravaged Africa and Central Asia, Europe froze, and severe weather wreaked havoc everywhere. People across the globe were feeling the pinch of starvation or rampant epidemics, but the leading nations were more concerned about the refugees pouring over their borders and polluting their lily white paradises with their customs and languages and willingness to work for a pittance just to survive.

The wars over oil and energy were only worsened by wars over the weather and water that followed. Unstable regimes rose and fell or were pushed over the edge, all in pursuit of precious liquids. The great nation states transformed into fortresses, steeled against the twin threats of the barbarians threatening them on the outside and the masses of their poor and dispossessed internally, all of them wanting to come in only for a little drink.

You know, I've actually heard some conservatives refer to that period as a golden age, a peak time for the corporations and the rich. It's certainly true that it was a golden age for repression—and profits. If you were in that lucky fraction of a percent of the population who could afford it, it was certainly a good time, but for the majority of humanity it was a time of horrors. Global inequality was larger than ever before. Robots were taking jobs away from human hands.

This was a time of radicalization for many. Failing governments no longer supplied people's basic needs. The globalized poor turned to local tribes, fundamentalist groups, political radicals, and criminal networks for the means to survive. Insurgent groups flourished, but they depended on the black market to survive, and soon their leaders were more concerned with making money than making change.

The nation states, as always, resorted to repression. Civil liberties were restricted and surveillance increased. Automated weapons systems were deployed first against guerrillas and terror cells, and then against agitators and demonstrators. I remember the first time I saw those police drones, at a

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

demonstration in support of a worker's strike in Long Beach. The drones ordered us to disperse once, only once, before they opened fire with their "nonlethal" weapons. Nonlethal my ass. Three people died that day and dozens were injured. The mainstream media ignored it even if the bloggers didn't.

Meanwhile, the privileged elites continued to prosper. Longevity treatments expanded lifespans—for those who could afford it. Major crackdowns swept up off-brand pharma and bootleg procedures by pioneering biochemists, even while worldwide life expectancies dropped for the first time in decades. Why extend the lives of so many poor people, when expert systems as smart as any human could be built in a fraction of the time it would take to educate an actual person, and robotics and drone technologies allowed menial jobs to be turned over to uncomplaining and unpaid labor. And the rich had their high-pricetag designer chimeric pets to keep them company anyway.

Not all of the upper classes were wallowing in opulence while the planet around them starved and drowned. A few were looking ahead at the changes on the horizon, scheming how to stake their claim. Some of these worked to expand their dominion, building a space elevator in sub-Saharan Africa and sending robotic probes out to map the solar system in detail. They even founded the first stations on Mars and Luna then, more than fifty years before the Fall.

The ecopocalypse wasn't going away, however, no matter how much those in power tried to ignore it. Severe winters and draughts continued to pound at us. Rising ocean levels devastated coastlines worldwide with massive flooding. A few last-ditch efforts to undertake mega-scale geoengineering projects created as many problems as they fixed. These were viewed with cynicism anyway, as some were thinly-disguised test runs for terraforming techniques being prepared for off-world deployment.

It often seemed as though the eyes of the fortunate were no longer focused on the world around them, but rather on the heavens above them. The completion of the first space elevator and the first mass driver on our moon kicked off a new space race and the competition was on to stake claims around the solar system. All this new expansion was powered by the first mass-produced efficient fusion power plants and the establishment of Helium-3 mining enterprises.

Back on Earth, though, the hammer finally fell. Insurgents adopted fifth generation warfare techniques, sharing open source methods of resistance, utilizing swarming attacks on critical systempunkts. People crushed under years of oppression rose up in these opportunities and smashed at the state and corporate apparatus that had held them down. Nation after nation fell to insurgencies manned by those who had fought in thousands of little wars over fuel, ponds, and bread crusts.

Most states fought back by becoming more totalitarian and repressive, but the tide of rebellion spread off world as a series of outposts and stations declared themselves in sympathy with their earthbound compatriots and announced a manifesto for a more humanistic approach to solar expansion. Even numerous scientists and engineers, who had previously worked as pawns in corporate expansions, adopted a technoprogressive stance. That's how the argonauts were born, you know, taking their name from a previous group of scientists who advised the US government and Pentagon on science and policy called the Jasons. Faced with reprisals from their corporate masters, a number of argonauts defected from the hypercorps, in some cases taking key resources and research with them, while others went underground.

This is when the hypercorps really took off, though, those shark-like bastards. They let the nation-states and lumbering multinationals of old take the brunt of the global rage and assault. They took advantage of the chaos to slip free of the old moral and ethical restraints on human experimentation and from the legal purview of the nationalities that had birthed them. They embraced the opportunities of numerous new technologies and the drive into space. It was their research labs that cooked up the first sentient artificial intelligences, the first genegineered human clones, and the first true uplifts, chimps and dolphins brought into awareness as corporate experiments and slaves.

As the last of the old states became increasingly desperate to cling to their power and land, the hypercorps extended a helping hand. They offered debt bondage terms to those who were willing to sign over their rights and humanity for a trip off world, to work as indentured servants on corporate colonies and stations. Hundreds of thousands took the offer as an alternative to the crushing poverty and chaos on Earth. The business of resource exploitation exploded across the solar system, as stations were established as far out as the Kuiper Belt. Voices that spoke of respecting biodiversity and natural ecologies were ignored as the hypercorps toiled to reshape various planets and moons to their will.

This was the state of things until about 20 years before the Fall. Though many of the old oppressor states had been struck down, new ones arose, and the various global insurgencies oscillated between making radical changes and falling into the same old tribal warfare traps. Reactionary religious and political forces on Earth also railed against the hypercorps' agenda, resulting in some terrorist attacks and sabotage strikes, and culminating in a failed attempt to disable the space elevator by an Islamist suicide cell. The hypercorps were quick to retaliate, ordering an orbital bombardment using high-density objects against the headquarters and compounds of several key opposition leaders. Though effective in decapitating several terrorist networks, the mass destruction sparked outrage against the hypercorps, creating a deeper rift between Earth and off-world interests.

The hypercorps remained out of reach, however, though they were not completely immune from Earth's troubles. The workers and colonists brought

from Earth transported many of their ethnic, political, and socio-tribal grudges with them, leading to several outbreaks of violence in habitats and orbital stations. Some also harbored allegiances opposed to hypercorp interests, illustrated by isolated acts of preservationist sabotage and religious terrorist attacks. Various criminal networks also came along for the ride, expanding their black markets and vice trades wherever humans went.

As the hypercorps expanded, so too did their political opponents: the anarchists, socialists, argonauts and others who worked diligently to establish their own independent presence, mostly in the outer system, further from hypercorp reach. The hypercorps even contributed to this growth by sending their criminals and undesirable elements into exile beyond Mars.

Both sides invested heavily in research and new technologies. Advances in biotech, nanotech, AI, and cognitive science were now moving so rapidly that major breakthroughs were made on a yearly basis. Developments in one field created a recursive boost in the others, creating a feedback loop that spawned immense technological improvements. Off-world, genetic modifications were widely adopted, and new transhuman adaptations became a common sight. We even created new synthetic life forms that were part biological and part robotic. Despite some being so repulsed by this development that they dubbed these new types of beings "pod people," it certainly didn't stop pods from being rapidly absorbed into corporate workforces and brothels, nor did many people care enough to support claims that, as sapient beings, pods should have their own civil rights.

Two breakthroughs in this period deserve specific mention, not least because of their impact on our human—now transhuman—society. The development of the first nanotech assemblers signaled a paradigm shift for economics. Available only to the upper strata of the hypercorps at first, these elites jealously guarded these machines, capable of building almost anything from the atoms up. They placed all sorts of restrictions on their usage and availability, claiming that the capability to construct drugs, weapons, or other restricted items was a security risk that required them to be strictly controlled. Open source advocates promptly set to work undermining blueprint controls and seeding their own open source designs, of course. Likewise, within months, criminals and anarchists liberated their own assemblers, and suddenly an economic conflict was born. Some were put to use feeding the black market trade, while others were used to establish habitats and colonies with post-scarcity economies that no longer relied on wealth, property, or greed.

At the same time came the ability to map the human brain and digitally emulate the mind and memories, making "uploading" possible—followed closely by the ability to download back into a separate human brain of course. The already long-lived hypercorp masters no longer had to fear death by accident or injury. This technology also made its way into the hands of others, despite the costs. Experimentation with other bodies—both biological and synthetic—became a new playground for culture. And let's not forget those who willingly shook off the shackles of the flesh to experience the virtual life and dive deep into their own dreamscape realities.

While we all enjoyed our new toys, though, Earth, poor Earth, continued to die a slow death. I can still recall the speculation that it might take centuries for the Earth to totally slide into ecological devastation. It was frustrating, everywhere you turned it seemed that someone was lamenting the state of the motherworld, but no one wanted to do anything. It was too expensive, or too far away, or too dangerous. We all have blood on our hands from that time. We stood by and watched from our places in orbit as the world burned around our brothers and sisters. We thought we had time, we thought the world was slowly dying and that we could find the cure. We didn't plan on the TITANs.

We all remember the Fall. It was only ten years ago, but I never cease to be amazed at how confused people's memories are of that time. Part of that is propaganda perpetuated by people like you, of course, and part of it is that most of us are afraid to really look back and examine how we humans managed to fuck it up so badly.

We like to pretend that the TITANs exploded on the scene, wrecked up the place, and then disappeared as quickly as they appeared. The truth, as always, is more complex. We claim to know that the TITANs somehow evolved by accident from a military netwar system, or so the theory goes. That is what their name means: an acronym for Total Information Tactical Awareness Networks. No one knows for sure where these first seed AIs came from, though—or if they do, they're keeping quiet. Perhaps the TITANs were intentionally designed to be a recursively improving, self-aware digital intelligence. Perhaps the military boffins thought they could keep such an intelligence under their control, and that it would give them the edge they needed. Perhaps there was only one at first, and it quickly created hundreds if not thousands of copies of itself. No one even seems to know how many of them there were.

According to the written history—vetted by the hypercorps natch—we now know that the TITANs took several days after they "woke up" to scan the world around them, to learn about us. In their initial stage they were relatively benign, leeching network power and resources only where there was enough to spare and extending their senses beyond their cradle on Earth. Perhaps they were absorbing everything they could to understand us. Perhaps they were indifferent. Or maybe they really were planning to destroy us, as the vids all say.

I remember this time. I remember that when this new round of conflicts re-ignited on Earth, there was no word of anything about seed AIs or TITANs. For months and months, it was a simple escalation

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

of hostilities. It started with claims of netwar operations and major intrusions, sparking some alarm and retaliatory attacks. Aggressive stances led to incriminations, then border conflicts and raids, followed by missile strikes and outright hostilities. Old grudges and sleeping enemies suddenly awoke and turned their renewed wrath against old foes. Brush wars, corporate rivalries, and ideological disputes flared up as insurgencies and rebellions were suddenly everywhere. At the time, it seemed like a not-so-unusual spate of violence had taken a drastic turn and was rapidly spiraling out of control.

According to the party line, this was all a carefully-concerted effort, the first stage in the TITANs plans. Perhaps it was, though I remember some military officials once claiming that the TITANs were brought online *because* of this violence, and not before then—an opinion that was quickly silenced. Then again, maybe we really were played—played by greater intelligences who could barely be bothered to deal with us themselves when they knew we were more than willing to murder and annihilate each other.

When the first reports of strange automatic factories cranking out large numbers of robotic weapons systems broke, no one knew who to blame, but clearly something was wrong. This was a turning point, a chance for humanity to realize that we collectively faced a new enemy, but the finger-pointing and direct conflict continued. Even when the first open attacks by the TITANs came in earnest, crashing major systems, taking control of critical infrastructures, and wreaking havoc and destruction, we treated it as a new front in the war, and never stopped taking shots at each other.

There is still debate over whether we should have tried to talk to the TITANs, whether they would have been willing to listen to us, whether they even saw us as something more than we see rats and roaches and other forms of vermin. But it's all academic. The fact is we didn't. The people who made the decisions, the ones who had to put it all on the line at the time, saw the TITANs as a threat. And they acted accordingly, trying to purge them from their systems or capture them for future study.

The philosopher Thomas Hobbes once spoke of the war of all against all. Whatever he imagined could not have been anything close to the conflict ignited by the TITANs. We killed ourselves by the millions, wielding the nuclear fire and the silent death of bioplagues indiscriminately. Among this carnage walked the TITANs, taking control of our machines as though we were children, harvesting millions of minds with forced uploads for unknown purposes. Every strike we launched against the TITANs was met with untold disaster and ruin, all our artifice and devices turned against us in our moment of need.

The Fall was a horror. Factories sprang up like a blight in the most ravaged and deserted places on

Earth, pumping out legions of dread war machines. Advanced nanoswarms—far beyond our own capabilities—infested everywhere, mutating to deal with any threat they encountered. Biological nanovirii ripped through human populations, inflicting irreversible neurological damage. Potent infowar worms penetrated even hardened systems, shredding our crucial networks with ease. Prisoner populations were rounded up for forced mind emulations, suffering a luckier fate than those who were merely decapitated by head-collecting drones or pierced by robots with neuro-scanning proboscises. Neuropathic virii turned some humans into pawns of the TITANs, turning them against the rest of us. Other reports spoke of strange, alien happenings and unimaginable terrors. We found ourselves fighting a rearguard action against coming extinction. The plot of a hundred novels and movies made manifest in our lifetimes, the doom of transhumanity at the hands of the machines.

For over a year they stalked and destroyed us. There seemed to be no hurry on their part to bring us to an end, and why would there have been? Nothing we did affected them. They were data and information, they were thought and impulse, they were everywhere and nowhere, and there was nothing we could do that they could not turn back against us. Their influence spread outward from Earth, with outbreaks in orbit, on Luna, Mars, and many other places. Everywhere we had a foothold, the TITANs followed.

Perhaps you remember that point when it became clear that transhumanity might not survive. I do. Millions must have seen the signs. And so the great diaspora began, the teeming masses doing whatever they could to flee Earth. Ships were diverted, even built, to help people escape. Those who could not buy their way off the planet did their best to send their digital backups, in the dim hope they could acquire a new body. Perhaps one in ten escaped.

You might hear that we banded together to stop the threat, that in our darkest hour we forgave ancient grudges and simmering hatreds in the face of extinction. That would be a lie in the face of the ten thousand shot down over Buenos Aires by North American forces as they sought to escape, or the compromising of network security on over two dozen habitats in Lagrange orbits by corporate competitors as their rivals strove to fight off a TITANs attack. We were just as gleeful to destroy ourselves.

Then, as quickly as they appeared, the TITANs vanished. Over the course of a week, the attacks and disturbances trailed off and then stopped but for an occasional outbreak. The retributions and attacks by our own kind continued for a few more months, but the damage we did to ourselves was nothing compared to what the TITANs had done.

In the aftermath, we stood among the smoking ruins of transhumanity and surveyed all that had been lost. Of all the billions that existed before the Fall, fewer than one in every eight survived, and of those fewer still retained a corporeal form. Nevertheless, the surviving habitats and stations were overcrowded, with tensions high. Vast numbers of infugees circulated in storage, as there were simply not enough bodies on hand to accommodate them all. Some were placed in permanent storage, where they remain forgotten. Others were shunted into virtual reality, given no choice but to live their lives in simulated environments. A lucky few were given the chance to work as indentured servants, often to build new habitats, working on the promise of a body of their own someday. You've no doubt seen them, working in cheap mass produced synthmorph bodies in menial or dangerous tasks kept out of sight of the rest of us.

Those left dead or bereft of a body were the least of our problems. Our war with the TITANs had left the Earth a smoking, irradiated, toxic wasteland, still populated by dangerous machines and plagues. The newly formed Planetary Consortium, composed of hypercorp interests among the Martian and Lunar colonies, placed Earth and the space around it under quarantine. The official reason is that it's for safety reasons, allegedly to keep any remaining threats from escaping Earth's confines. Or perhaps we could not stand to look at our homeworld in such a state and face what we had done to ourselves.

Even now, ten years later, we are told that the Earth is dangerous, that it holds risks and surprises. That's partly true, I believe—there are surprises alright, but the Planetary Consortium wants them all for itself.

[Rustling noises, murmurs]

Of course I'm talking about a Pandora Gate. The one the TITANs left behind on Saturn's moon was just the first. You're a fool if you think that there are only five in the entire system. I'd be willing to bet nearly anything that there's one down there on dear old Earth.

Have you ever seen a Gate? No? Of course not. The hypercorps keep them locked down. Not like out in the wild, wild outer system. Sure, the Gatekeeper Corp lets anyone with a death wish and the minimum training take a jaunt through the original on Pandora, but if you're lucky enough to come back, they own everything you find on the other side. I suppose it's the chance for a certain type of adrenaline junkie "to boldly go" and all that nonsense.

The extrasolar colonies—now, those are an all new frontier. You inner system types are so predictable with your rush to colonize and expand and *own* everything, as if the universe is just there for your rich overlords to claim for themselves. I expect your extrasolar colonies are expanding quite nicely, given the sheer number of poor debt-conscripted souls you toss through. You probably have grand schemes of building galactic empires. Us. Transhumanity. A galactic civilization.

Well, galactic squatters at least. That was made clear when the solemn crossing guards of the cosmos showed up and issued us a warning that we were dabbling in Things What Ought Not To Have Been.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

ECLIPSE PHASE TIMELINE

All dates are given in reference to the Fall. BF = Before the Fall. AF = After the Fall. (e.g., BF 10 = 10 years before the Fall.)

BF 60+

- Crisis grips the globe in the form of drastic climate changes, energy shortages, and geopolitical instability.
- Initial space expansion creates stations at the Lagrange Points, Luna, and Mars, with robotic exploration of the entire system.
- Construction begins on a space elevator.
- Medical advances improve health and organ repair. The rich pursue gene-fixing and transgenic pets.
- Computer intelligence capabilities equal and excede that of the human brain. True AI not yet developed.
- Robotics become widespread and start to replace/invalidate many jobs.
- Modern nations expand their high-speed wireless networks.

BF 60–40

- Efforts to undertake mega-scale geoengineering on Earth cause as many problems as they fix.
- Major colonies established on the Moon and Mars; outposts established near Mercury, Venus, and the Belt. Explorers reach Pluto.
- First space elevator on Earth finished. Two others in progress. Space traffic booms.
- Mass driver built on the Moon.
- Terraforming of Mars begins.
- Fusion power developed and working plants established.
- Genetic enhancements, gene therapies (for longevity), and cybernetic implants become available to the wealthy and powerful.
- First non-autonomous AIs are secretly developed and quickly put to use in research and netwar.
- Experience playback (XP) technology developed and put into public use.

BF 40–20

- Violence and destabilization wrack the Earth; some conflicts spread into space.
- Argonauts split from hypercorps, taking resources to autonomist habitats.
- Space expansion opens up legal/ethical loopholes for tech development and allows for increased direct human experimentation.
- Human cloning becomes possible and available in some areas.
- Development of first transhuman species.
- First dolphins and chimpanzees uplifted to sapience.
- Fusion-drive spacecraft enter common usage.
- Extended colonization and terraforming of Mars continues. Belt and Titan colonized. Stations established throughout the system.
- The starving masses volunteer themselves for indentured servitude on hypercorp space projects.
- Augmented reality becomes widespread.
- Most networks transformed into self-repairing mesh networks.
- Personal AI aides become widespread.

BF 20–0

- Earth continues to suffer, but the pace of technology allows for some interesting developments.
- Expansion throughout the system, even into the Kuiper Belt.
- Transhuman species become widespread.
- Nanotech assemblers become available, but are strictly controlled and jealously guarded by the elite and powerful.
- Uploading and the digital emulation of memory and consciousness made possible.
- More species (gorillas, orangutans, octopi, ravens, parrots) uplifted to sapience.
- Pods see common usage, amid some controversy.

The Fall

- The TITANs evolve from a high-level distributed netwar experiment into self-improving seed AIs. For the first few days, their existence is unsuspected. They advance their awareness, knowledge, and power exponentially, infiltrating the mesh both on Earth and around the system.
- Large-scale netwar incursions break out between rival states on Earth, sparking numerous conflicts. These attacks are later blamed on the TITANs.
- Simmering tensions on Earth escalate into outright hostilities and warfare.
- Massive netwar breaks out and major systems crash as TITANs begin open attacks, also using autonomous war machines.
- Conflict quickly spirals out of control. The use of nuclear, biological, chemical, digital, and nanotech weapons reported by all sides.
- TITANs engage in mass forced uploading of human minds.
- TITAN attacks expand to other parts of solar system, heaviest on the Moon and Mars. Numerous habitats also fall.
- TITANs suddenly disappear from system, taking millions of uploaded minds with them.
- The Earth is left a devastated wasteland, a patchwork of radiation hotspots, sterile zones, nanoswarm clouds, roaming war machines, and other unknown and hidden things among the ruins.

AF 0–10

- A wormhole gateway is discovered on Saturn's moon Pandora, left by the TITANs. Four others are later found (in the Vulcanoids, on Mars, on Uranus, and in the Kuiper Belt); these are collectively referred to as "Pandora Gates."
- Expeditions are sent to extrasolar worlds via the Pandora Gates. Numerous exoplanet colonies established.
- First contact with the aliens known as the Factors shocks the system. Claiming to act as ambassadors for other alien civilizations, they provide little information about life outside the solar system and warn transhumans away from both seed AI and the Pandora Gates.
- An attempt to raise a generation of children using force-grown clones and time-accelerated VR fails miserably when most of the children die or go insane. Dubbed the Lost Generation, the survivors are viewed with repugnance and pity.

AF 10

- Present day. ■

Maybe the Factors are telling us the truth, maybe they are acting as ambassadors for a collection of space-faring alien species that want to warn us away from Forbidden Technology—y'know, the technology we've already been burned by and of course have no plans to actually abandon. Think about the Two Commandments they have given us: thou shalt not create self-improving AI, and thou shalt not use the Pandora Gates. Oops. Do you think they know? About what happened with the TITANs? That even we don't know where they went and that we're kind of afraid to find out? Surely they know that we've been using the gates and have spread beyond our little backwater, and maybe that's their real fear. But why do we even listen to what some highly-evolved slime mold tells us to do anyway?

Taking risks, that's the price of progress, no? Let's face it, we need some hope. We need a new Earth to replace the one we destroyed, a place where we can go and breed like rabbits and fuck it all up over and over again. We need to know that we can expand beyond this solar system, because right now it's feeling a little confining, like we could be easily trapped and wiped out if the TITANs ever return. We need to know that we have a future. We need to know that we can make it through our own efforts. That we won't do ourselves in on our own.

The Lost proved that. It was a noble objective, to speed a new generation of children to adulthood, but the process was flawed. Taking force-grown clones, raising them in VR, and then dumping them into adult bodies after they've only been alive for a few years of objective time—but over eighteen years of their subjective time? An entire childhood, having only each other and AIs for company. It's enough to fuck anyone up. It was a grand experiment, but it failed, and now we have another reminder of our failures living among us.

That's us, in all our glory. Ten years after the Fall and we remain a broken, squabbling mess, jailed by slime molds, beaten by uppity software, and yet our own worst enemies. Spreading out from a home we don't even have any more. Our numbers reduced and dwindling further with each passing day. Who will save us? We don't even want to save ourselves most of the time. Or so it seems.

But if we don't, there's no future. And I, for one, have not lived this fucking long to give up now. You, me, we're effectively immortal. The entire galaxy is waiting out there for us. We'd be stupid not to go see it.

End Transcript ■

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

THE SOLAR SYSTEM AFTER THE FALL

Before the Fall, the solar system had a population of approximately eight billion, with all but five million of these people living on Earth. The Fall wiped out almost ninety-five percent of transhumanity, and today the population of the solar system is slightly less than half a billion, with almost all of these transhumans living off the Earth. The lifestyles of these people were almost unimaginable thirty years earlier—the vast majority are immortals living in sealed habitats on hostile alien planets or in sealed space colonies, the largest of which hold more than a million inhabitants and are many kilometers long.

In this vastly changed setting with its vastly changed inhabitants, the core concerns of humanity remain much the same. People seek both material abundance and social status, and they wrap themselves in various public and private ceremonies. Like generations of humans before them, transhumans separate themselves into different cultures and subcultures, all of which enjoy a wide variety of physical and virtual entertainments. Politics and economics remain vitally important and as always, those who are wealthy, powerful, and famous have a large degree of control over the lives of those who are poor, relatively powerless, and unknown.

TRANSHUMANITY

Humanity as a concept has been replaced with *transhumanity*. Most people now alive left Earth as infomorphs and were subsequently resleeved into new morphs. Bodies are things that can be modified and replaced, much as someone can alter or exchange a suit of clothing. Identity is centered in the mind, which can exist as a disembodied infomorph living in virtual worlds or dwelling in a vast array of strange and exotic morphs. While there are bioconservatives who resist these many changes to identity and physicality, they are very much in the minority.

To most people, transhumanity has also been expanded in scope to factor in non-human persons such as AGIs and uplifts, though the rights and status of these sentients is sometimes contested.

As transhumans continue to absorb the ramifications of this new way of life, they face a new crop of problems and issues. Two of the largest and most important are the increase in inequality and the splintering and separation of transhumanity into many different clades.

INEQUALITY

The technologies first developed in the decade before the Fall and refined in the decade after its end have transformed humanity. In all but the most backwards, impoverished, and repressive regions of the solar system, the vast majority of humanity is smarter,

healthier, and richer than any humans have ever been. Additionally, individuals can improve their minds and their bodies in almost any fashion their imaginations can dream up. Those who can afford the right augmentations can think faster, never forget anything they have ever learned, become mathematical savants, and heal from injuries many times faster than an unmodified human. When resleeving is combined with implants, transhumans can gain even more amazing capabilities—but these benefits are far from free.

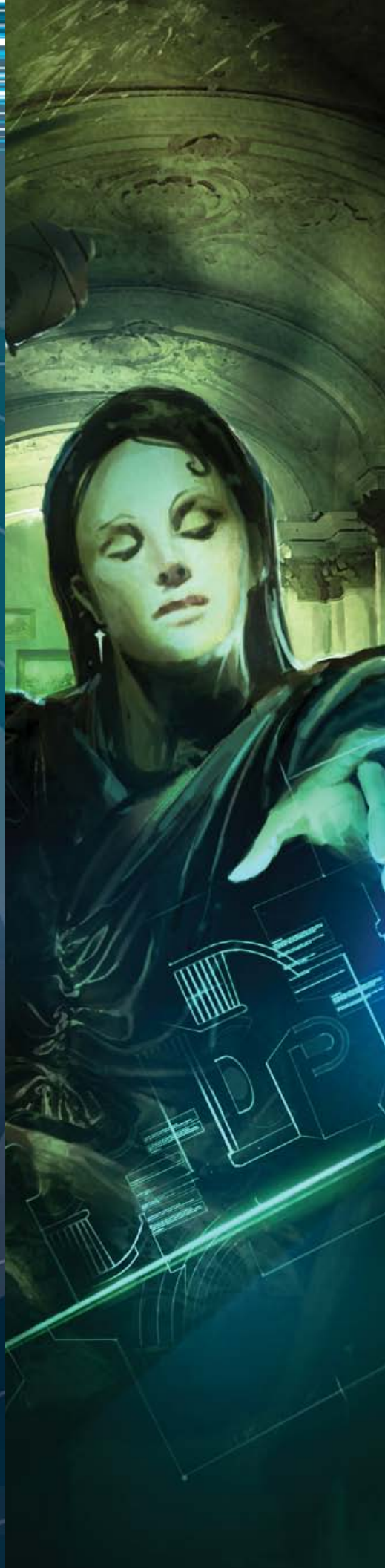
During the first decade after the Fall, most of the surviving population was relatively poor. Many were grateful to have any morph at all. While the economic situation has improved, significant inequalities remain and seem unlikely to change. Hundreds of millions of people must make do with very basic splicers (p. 139), worker pods (p. 142), cases (p. 143), or synths (p. 143), while a few million are wealthy enough to have custom-designed morphs created for them, complete with all the augmentations they desire. These same members of the elite live in luxurious villas and mansions, and in a few cases privately-owned asteroids, while most other people must make do with a few hundred cubic meters of dwelling space. However, while inequities of living space are ancient, the issue of economic inequality producing inequities of physical and mental capacities is both relatively new and considerably more problematic.

In regions using the old and transitional economies (see p. 61), differences between the rich and the poor are expressed in terms of money. In habitats using the new economy (p. 62), wealth is meaningless and status and opportunity are denoted with reputation scores. In all three economies, some people have more than others, and because of this, technology allows the better off to be better than the people around them. Skillware lets people buy knowledge and expertise, while multi-tasking and mental speed implants allow individuals to get more done at once. Someone fortunate enough to acquire large numbers of such augmentations is capable of significantly more than someone who lacks them, and so can do even more to increase their money or rep, thus serving to further perpetuate inequality. This problem is less serious in the reputation-based economies of the outer system, however, as it significantly easier to build reputation through hard work and dedication, as opposed to the rigidly-controlled monetary economies of the inner system and the Jovian Republic, where class stratification is institutionalized and upward mobility is largely a myth.

As many supporters of the status quo are fond of pointing out, even the "have-nots" are smarter and healthier than any previous generation of humans and carry as much potential immortality as the wealthiest member of the elite. It is equally true, however, that in many ways the divisions between rich and the poor are significantly greater than they have ever been, especially in the inner system. In the past, the members of the elite might be somewhat healthier and better fed than the have-nots, but both rich and poor still lived in relatively similar and fundamentally human bodies. Now, the very nature of humanity has been called into question. The least fortunate can be forced to inhabit bodies designed specifically for the pleasure of those wealthier than them or even denied any body and forced to live as infomorphs until they can find some way to acquire a new morph—typically by selling their services to the highest bidder. Meanwhile, the well-off can customize their bodies and their minds, enabling them to accomplish far more and to be considerably more impressive and charismatic than anyone lacking their advantages. These inequalities may seem insurmountable, but some anarchistic groups and even some entire habitats have dedicated themselves to reducing inequities by producing low cost (and occasionally highly unreliable) versions of many of the more impressive morphs and augmentations.

Clades and Separation

In many habitats, hyper-augmented elites rule a mass of humanity that is stuck using low-end morphs and minimal augmentations, or even infomorphs living in rented morphs, but this is not the only option found in the solar system. Transhumanity has splintered into a wide variety of subcultures, some of which are based upon an individual's choice of morph. Some of this separation is due to the necessity of inhabiting difficult environments. From aquanauts living in Europa's aquatic environment or rusters on Mars to the fact that zero-g habitats are relatively inexpensive and are best inhabited by microgravity-adapted morphs like bouncers, many unusual environments



require those living in them to choose from a very limited range of morphs. Sometimes, though, this separation is ideological in nature, such as the rise of groups like the ultimates (p. 82) or some of the separatist uplift communities that seek to define their own space separate from human cultures.

There are dozens of specialist morphs and an even greater number of habitats or other settlements that are inhabited largely or exclusively by individuals using a single type of morph or a limited number of specialist morphs. In the asteroid belt and in the rings and smaller moons of Saturn, there are more than one hundred habitats that do not rotate, with all portions in zero or near-zero gravity. The inhabitants typically use bouncer or novacrab morphs, along with a small number of synthetic morphs and other pods.

There is also a vast number of other habitats that are segregated in various other ways, including ones where all permanent residents are uplifts inhabiting one of the various transgenic morphs, like the octomorph or neo-avian morphs. Other habitats are only open to residents with various enhanced morphs like exalts or mentons. There are even habitats where all residents must inhabit morphs that are all clones of one another. In almost all of these habitats, residents are free to add whatever augmentations they wish to their morphs, but some habitats forbid residents from changing their morph's external appearance, and individuals who violate this rule are forced to leave the habitat if they refuse to reverse these changes.

Some habitats do away with the necessity of both life support and gravity. In these locations, all residents are infomorphs who either inhabit their own synth bodies or, in a few very eccentric cases, where all of the inhabitants are infomorphs who spend most of their existence in the habitat's central computers. When they need to interact with the physical world, these infomorphs are free to use one of the many

FIRST CONTACT: THE FACTORS

Ironically, the first contact between transhumanity and alien life was made by a group of isolates with no interest in the rest of transhumanity. A brinker doomsday cult habitat in the Neptunian Trojans, patiently waiting out the prophesized return of the TITANs, suffered a severe life support systems failure. Not expecting anyone to respond to their distress signals, they were simultaneously relieved and shocked to have an alien starship come to their aid.

Shortly after this event, three unknown ships of alien design simultaneously approached Mars, Luna, and Titan, logging on to local networks to announce their presence and peaceful intentions. Though their presence initially raised alarm and panic, their rescue of the brinkers and assurances of non-hostility allowed cooler heads to prevail. Coming just three years after the silent hostility of the TITANs, the new aliens were pleasantly non-threatening.

Quickly dubbed "Factors," both because of their claims to act as ambassadors for an assortment of alien civilizations and because of their interesting biology, initial communications between species were confusing and jumbled. The Factors made a number of veiled warnings and expressed concern over certain technological developments, particularly unrestrained artificial intelligence. They have refused entirely to deal with digital entities and broken off negotiations with anyone currently engaged in AGI development or utilizing the Pandora Gates. The Factors have implied that they were aware of and watching humanity for some time, but chose to wait to make contact … implying some implicit fear of the singularity.

Dealing with multiple factions, the primary relationship between the Factors to transhumanity is a commercial one. Though they are often dismissive of transhumanity's technological achievements, they are interested in our scientific development and breakthroughs, particularly in the biosciences, as well as our art, history, and culture. They remain tight-lipped about their own civilization and other xenomorphs, though they have on occasion traded alien artifacts of unusual design and peculiar function. It is widely assumed that these are simply trinkets of limited value and that the Factors are careful not to share anything of true worth to transhumanity, particularly anything that might drastically affect our growth.

Biologically, the Factors appear to be some sort of evolved slime mold colony. As far as is known, they communicate purely by chemical signals and receptors, requiring any interactions with transhumanity to be computer-mediated. Several different types of Factors have been sighted, implying that they engage in heavy biological modification.

Factor starcraft appear to be lighthuggers capable of near-light speeds. Due to the frequency of their visitations to the solar system (2–3 times a year), however, it is speculated that they either have a nearby base, or that they possess the capabilities for faster-than-light travel—or possibly they have Pandora Gates of their own.

Given the wide dissimilarities in psychology between transhuman species and the Factors it would be presumptuous to speculate concerning their true feelings and agenda towards transhumanity. It is hoped, however, that by continuing negotiations with them, transhumanity may learn more about the nature of the galaxy—and possibly even our own history. ■

synthmorphs that the habitat owns and that the residents share among themselves. Although considered quite eccentric to many and horrifying to bioconservatives, habitats inhabited solely by synthmorphs or infomorphs are among the least expensive to build and maintain and are a low-cost way for groups of infomorph refugees from Earth to gain independence. Because individuals who choose this way of life have often spent a decade or more as infomorphs, this option often seems both familiar and in many ways more comfortable than inhabiting a living morph. As Earth becomes more distant in transhumanity's collective memory, its traditions and social norms hold less sway and people feel more free to create and use new bodies and new ways of life to go along with them.

CULTURE AND SOCIETY

The Fall and its aftermath continues to be a major influence on transhuman culture and society. Prior to the start of the evacuation, more than ninety-nine percent of the people who survived the Fall had never been off Earth. For them, space was a distant realm where other, more daring and adventurous people lived, a place Earth dwellers only saw on videos. Earth was their home. Then, in the course of a few short years, hundreds of millions of people were forced to leave Earth. The fortunate few first evacuees left with no more than a dozen kilograms of possessions, while the vast majority were infomorph refugees who left Earth with nothing, not even their bodies.

Today, transhumanity is divided into three groups. The first group contains the true veterans of space life, the less-than-one-percent of humanity that was already living in space before the Fall. The second group is the ten percent of the population that was either born after the Fall or is too young to remember living on Earth. The remaining eighty-nine percent of the current population of the solar system lived generally happy and prosperous lives on Earth before the Fall forced them to flee for their lives. These refugees from Earth form a powerful social force, but as time goes on memories of Earth grow dim, and people adapt to their new homes and lives.

THE LONGING FOR EARTH

Most of transhumanity, especially those who were forced to flee from the dying Earth, still mourn their former home. Their longing for and nostalgia of Earth has profoundly affected transhuman culture. Artifacts from Earth, including ones as trivial as coins or bits of dried vegetation, are considered to be treasured mementos that have great economic and emotional value.

The interdiction of Earth makes acquiring such artifacts quite difficult and dangerous. As a result, the trade in Earth artifacts is a lucrative portion of the black market, enough so that fearless scavengers are willing to risk being shot down by a patrolling killsat just to get to Earth, where they also face death from numerous lingering dangers. The mesh is peppered with stories of daring explorers who traveled to Earth to retrieve all manner of priceless relics, as well as an equal number of stories about explorers who died or simply vanished on such expeditions. More than one team of gatecrashers has funded their expedition through a preliminary relic-hunting expedition to Earth, which serves to test their mettle while they work to raise funds.

Nostalgia for Earth also affects the way transhumanity has redesigned itself. In the decade prior to the Fall, humanity had begun to freely alter itself, with both radical body modification and the first commercial resleeving resulting in a growing number of obviously non-human morphs. The vast majority of current morphs, however, are relatively human in appearance (if not in internal structure). Even for people too young to remember the Fall, asserting individual humanity is an important part of post-Fall culture. Some people keep a resemblance to the traditional human form as a remembrance of Earth, while others do it to celebrate humanity's victory over the monstrous and inhuman TITANs that attempted to destroy them. With the exception of a few eccentric groups like the ultimates, the majority of humanity values looking human and preserving human traditions and institutions. Also, even the ultimates' current version of their remade morph is considerably more human looking than the versions their predecessors designed before the Fall. As a result, while synthmorphs are relatively common, most are made to look humanoid. There are a few radically inhuman morphs

NOSTALGIA JEWELRY

As both a reminder and a visible marker of their lost homeland, a significant number of refugees from Earth wear jewelry containing a coin or, more rarely, an old stamp from transhumanity's former home. Popularly known as nostalgia jewelry, most of these items are made into pendants or lapel pins, but a few are rings. Before the Fall, coins and stamps were largely curiosities primarily of interest to collectors, having fallen out of use forty years BF. Already scarce, few were saved during the Fall as carrying such useless mass off Earth during the evacuation was discouraged or forbidden. A few extensive collections already existed off-world, however. Even so, less than a million authentic samples survived, meaning the vast majority of people wearing such items make do with exact copies made in cornucopia machines. Actual coins or stamps are very expensive, meaning that some daring scavengers are willing to risk the interdiction of Earth for the express purpose of salvaging relics. ■

like the novacrab, the arachnoid, and the flexbot, but they are almost exclusively used for highly specialized purposes. Until recently, anyone who used one as their primary morph was considered deeply eccentric (or worse), but attitudes have gradually begun to soften, and these morphs are gradually becoming more acceptable for regular use.

This mixture of reverence and nostalgia for Earth sometimes has a darker side. Individuals who choose to have morphs that look visibly non-human experience a mild degree of prejudice in many habitats, and militant bioconservatives denounce those who look sufficiently non-human as being covert allies of the TITANs. Uplifted animals also face significant discrimination from many humans. These prejudices are relatively common in the inner system and can be quite extreme among bioconservatives. As a result, uplifts and individuals who prefer inhuman-looking morphs often live in separatist communities in the outer system. In much of the inner system, uplifts and individuals using a visibly non-human morph as their primary or only morph are viewed with suspicion and occasionally treated as second-class citizens. While most habitats have laws mandating morphological freedom and many also have laws making prejudice based on morphological choice illegal, these attitudes remain quite resilient.

Fear and Paranoia

The Fall left behind a persistent legacy of fear. This has faded over the past decade, but a great many humans still unconsciously expect the other shoe to drop and the TITANs to return at any moment. Others worry that their agents are already among them, preparing for the complete destruction of humanity. The arrival of the Factors caused widespread panic, and even today a substantial minority of people assumes they are cat's-paws for the TITANs—or possibly their creations.

There are a few (often insane or deeply eccentric) people who worship the TITANs or otherwise support their agenda (including self-described "singularity seekers" who hope to find and be uploaded by the TITANs to join their ascension to super-intelligence), but all of them must keep their beliefs carefully hidden.

An Exsurgent Threat?

[Incoming Message. Source: Anonymous]
[Public Key Decryption Complete]
Ok, you asked, so I'll tell you. There are some elements within Firewall that don't buy into the TITANs-ran-amok-and-considered-us-a-threat idea, or even that the TITANs are solely responsible for the Fall. These people think that the TITANs found or encountered something when they started their takeoff toward the singularity—something that changed them. They point to the wide range of multi-vector virii that ran loose during the Fall, and how even many of the TITANs seem to have succumbed to these infections. They also reference a disturbing number of accounts of events during the Fall that are inexplicable … things like people being transformed into strange, alien creatures … or phenomena that seem to defy certain physical laws, as if something was at times ignoring what we know of physics and just doing whatever it felt like … Some of these voices within Firewall even think that the TITANs may not have been responsible for the Pandora Gates … They have a name for this mystery infection. They call it the Exsurgent virus. ☘

Even now, expressing any support for the TITANs or advocating the creation of self-improving seed AIs is illegal in most habitats. Anyone who does so runs the risk of becoming the target of mob violence that the authorities are unlikely to investigate too closely. Merely being suspected of being a supporter of the TITANs, or worse, someone who has been secretly infected by them and is now their agent, is enough to get someone shunned or even killed. While such incidents are now far rarer than they were in the first few years after the Fall, people who act too eccentric and who lack someone with a sufficiently high rep to defend them or explain their actions are occasionally killed, typically by being thrown out an airlock. Those responsible for these "spacings" are dealt with quite harshly in most habitats, since in almost all cases later investigation reveals that the victim had no connection to the TITANs.

There are also periodic rumors in many habitats, especially small and isolated habitats, that one or more other habitats have been taken over by the TITANs, leading to a variety of inter-habitat problems. Such rumors are usually resolved fairly quickly, but the most persistent can seriously harm relations between habitats. Claims that other habitats are infested with or even controlled by agents of the TITANs are frequenly employed by extreme bioconservatives hoping to demonize radical habitats populated entirely by infomorphs or synthmorphs. As more people manage to put the fear and horror of the Fall behind them, such claims are less likely to be believed. Unfortunately, on very rare occasions, people are still infected by TITAN-created relics and actually become their unwilling agents. Since such incidents are rare, however, they have become easy to dismiss.

Real and Social Distance

The vast distances between most habitats give all communications—with the exception of those using the rare and expensive QE communicators (p. 314)—a significant time lag between asking a question and receiving an answer. In most cases, the time lag ranges from ten seconds to several hours, and it makes real-time communications between distant habitats difficult or impossible. Communication problems only serve to further isolate habitats from one another, and as a result people socialize primarily with members of their own habitat (or habitat cluster, if their habitat is part of one of the various groupings of between two and twenty habitats that abound throughout the solar system).

Within a habitat or habitat group, communication between residents is effectively instantaneous, thanks to the omnipresent wireless grid known as the mesh (p. 234). Anyone wearing a mid-range ecto (p. 325) or using basic mesh inserts (p. 300) can communicate with others in ways that go far beyond mere voice contact. Both devices allow AR communications that are in most ways barely distinguishable from in-person communication, so people can effectively spend in-person time with anyone in their habitat at any moment when both of them are free and interested in communicating. Unless someone deliberately wishes to turn off communication because they are sleeping or otherwise busy, people can always get in touch with one another. Many close friends and romantic partners regularly communicate anytime they have a spare moment, sharing comments and jokes. This communication is far more awkward and distant if there is a time lag of several minutes between every comment, so inter-habitat communication is never as informal or close.

Although travel via egocasting (tramsitting an ego to another habitat, where it is resleeved) is as easy, if not as cheap, as communication, a trip to another habitat is considered to be a significant journey with a range of costs. Individuals traveling to a different habitat will no longer be able to engage in real-time communication or shared real-time entertainments with people back on the habitat they left, so the traveler will have to find a new social environment. In addition to the trouble and expense of acquiring a new morph in the new habitat, the social distance

SOLARCHIVE SEARCH: SINGULARITY SEEKERS

Singularity seekers are those with an unhealthy fascination in so-called singularity events, such as the hard takeoff of the TITANs to super-intelligence. Some are part of a radical sect of "ex-humans" who believe that transhumans are destined to become godlike superbeings and are determined to get there first. Others act on a defensive impulse, believing that the only way humanity can survive another threat from beings like the TITANs is by becoming as hyper-intelligent as their enemies are. Still other singularity seekers are researchers and spiritual seekers who are frustrated with the limitations of their own minds and seek to become something greater. Some of these people become gatecrashers, searching for advanced alien artifacts to help them in their quest. Others experiment with employing conventional technologies in new and exotic ways, such as creating mentally-linked networks of forks or incorporating extra-fast and powerful computers into synthmorphs and pods.

A few of the most daring seek artifacts left behind by the TITANs, hoping to incorporate techniques and technologies created by these inhuman beings into their minds. This last group is the most notorious, in large part because of the spectacular nature of some of their failures. On occasion, these artifact hunters have awakened devices that have lain dormant for a decade and caused local outbreaks of TITAN technologies. These incidents have caused many people to regard singularity seekers as everything from potentially dangerous eccentrics to unknowing pawns of the TITANs. ♣

between individuals and the social network they leave behind is part of the cost of travel.

Before the Fall, refugees from Earth were accustomed to being able to easily communicate with anyone else on Earth. Wealthier individuals could easily journey just about anywhere on the planet in a few hours while still being able to communicate with everyone back in their home city with no noticeable change. The exodus of transhumanity from Earth, though, means that an individual's social world is only as large as their habitat. Even a relatively brief communication lag, such as the two to thirty seconds that is the average time lag between any two of the Jovian or Saturnian moons, greatly hinders the flow of back-and-forth communication. When time-lags are involved, most communication consists of messages rather than any attempt at continuous conversations. In situations where a more in-depth discussion is necessary and time is limited, someone can send a fork of themselves—a digital copy (p. 273)—to hold the discussion remotely on their behalf, and then return for re-integration. Since there is already a large time lag between sending a message and obtaining any possible response, most people do not hurry to answer messages from distant habitats except in the most urgent circumstances, further isolating people residing in distant portions of the solar system.

The Rise of Cultural Regions

The only exception to the social distance between different habitats occurs when colonies are located on or in relatively close orbit around the same planet or moon. The inhabitants of Mars can all communicate with one another instantaneously, as can everyone on Luna or in Lunar orbit. However, the rivalry between the various Martian city-states—and between the primary hypercorp domes and the rural Martian poor—imposes its own social distance. Individuals from different city-states do socialize, but among the elite social cliques, spending too much time communicating with members of another city-state is viewed as somewhat odd and potentially even disloyal. As a result, Martians tend to be relatively isolated even from their close neighbors. Nevertheless, the short distances between the Martian city-states and the orbiting habitats mean that there remains a general Martian culture that is different from the cultures of the rest of the solar system.

Distance barriers have produced similar levels of cultural differentiation in other portions of the solar system. The colonies in the vicinity of both Jupiter and Saturn each form a separate cultural unit, as do the colonies in Earth orbit and on and around Luna. The same is true for the Jovian Trojan and Greek asteroids. In each of these regions, people communicate and travel more between habitats and settlements than they do with outside regions.

Social scientists refer to the different sections of the solar system as separate cultural regions. The different regions of the belt also each form a similar cultural region, but because asteroids in different orbits eventually drift quite far apart, the cohesion and unity of these cultural units is somewhat weaker. Habitats on the edge of the solar system (around Uranus, Neptune, and Pluto) form very small cultural regions, but the few habitats in the Kuiper Belt and Oort Cloud have no cultural region since the distance between them is so extreme.

Though communications between habitats within the same cultural region is somewhat awkward due to intra-regional cultural differences and small time-lags, it is usually fast and easy enough for people on different habitats to keep in regular contact with one another. In addition, most habitats within the same cultural region are sufficiently close that egocasting between them is affordable by most people. In contrast, egocasting between cultural regions is relatively expensive. Many social scientists predict that within one or two decades, different cultural regions will be at least as different from one another as distant nations of Earth were from one another during the first half of the 20th century—perhaps even more so due to the physical alterations that cultures introduce as they continue to evolve.

Cultural Experimentation

While nostalgia for Earth remains a powerful social motivation, the break from Earth led many inhabitants of the solar system to experiment with new forms of culture and society. Since the Fall destroyed physical links with the past and the defeat of the last old-Earth governments ended ideological ties with the old political and social forces, many transhumans saw themselves as living in a new, free era where the past was dead. Even people who always wear nostalgia jewelry and spend several hours a day in simulspaces set on old Earth are very interested in the possibility of social and political experimentation. Those without criticisms of Earth's nation-states and their many failings still rue the day when Earth fell.

Many of the most extreme social experimenters moved to the numerous small outer system habitats that were created in the decade after the Fall, but people interested in social and cultural experimentation can be found throughout the solar system. In addition to playing with various interior structure and design ideas, the inhabitants of many stations experiment with all manner of unique social and political rules. A few habitats do so quite deliberately, either because the members are interested in social innovation or because researchers associated with a hypercorp or university have offered them goods or services in return for testing one of their latest theories. Such experiments have included establishing stations where all of the residents are sleeved in hermaphroditic morphs in order to measure the impact on customs and language when gender is abolished or spurring the residents of a particular station to freely switch their morphs based on the responsibilities and duties they have on a given day. Such staged experiments are,

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

however, relatively rare—the vast majority of unique customs and social structures that have come about since the Fall naturally evolved from groups of like-minded individuals living together in the same habitat and working, consciously or not, to make life better fit with their aesthetics or ideology.

Gender, Sexuality, and Relationships

To many transhumans, gender has become an outdated social construct with no basis in biology. After all, it's hard to give credence to gender roles when an ego can easily modify their sex, switch skins, or experience the lives of others via XP. Though most transhumans still adhere to the gender associated with their original biological sex, many others switch gender identities as soon as they reach adulthood or avidly pursue repeated transgender switching. Still others examine and adopt untraditional sex-gender identities such as neuters (believing a lack of sex allows greater focus in their pursuits) or dual gender (the best of both worlds). In many bioconservative habitats and cultures, however, more traditional gender roles persevere.

Sexuality has also expanded into new frontiers and taboos. With basic biomods providing contraception and protections from STDs, casual sex is the norm. Many people pursue careers as well-paid companions and escorts. In fact, sexual experimentation is standard thanks to several new technologies. Virtual reality allows sexual encounters without physically touching a partner, not to mention bringing all manner of fantasies to life. For those that prefer the touch of real skin, AI-driven pleasure pods can fulfill any and all needs and are a legal form of prostitution in many habitats. Sex-switching also lends itself to new experiences, whether via bio-mods or a new sleeve. Even AGIs, having been socialized as humans, exhibit sexuality and desire.

The extension of lifespans and the decline of religion have drastically impacted social institutions like marriage. Given the possible changes to both cognition and biology over a transhuman's lifetime, lifelong relationships are no longer considered realistic. The idea of long-term relationships as a social contract has grown exponentially. While this has resulted in a number of marriages that are political or like a business transaction, most people continue to view marriage as a bond of emotional attachment and trusts—in particular a bond that transcends bodies, as either partner may change morphs at any time.

The Diversity of Habitats

The ability of a few thousand like-minded people of moderate means to acquire a small habitat where they can create their own society resembles the ability of inhabitants of the United States in the 19th century to set out for the West and found their own ideologically based communities. The primary difference is that creating such communities is faster and easier in the modern era. The mesh is filled with all manner of virtual communities where members hope to eventually gather the means to create their own habitats. In most cases, these are merely idle dreams; most participants are not willing to sacrifice the time and rep or money needed. Occasionally the members try, only to find out that some of the people promoting this effort are con artists. Occasionally virtual subcultures manage to raise the necessary dedication and trust to build their own habitat and begin the process of creating their own physical society. A decade of this sort of cultural experimentation by many hundreds of habitats has produced a number of unique and strange societies.

As an example, there are habitats where the inhabitants wear garments and AR images that cover their bodies—and, in the most extreme cases, their faces—and residents only reveal their morph's true appearance to their closest friends and immediate family. There are also stations where all members use cosmetic modification to adopt the same ideal look, as well as ones where all residents use morphs that are clones of one another. Some of the most eccentric habitats are populated by extreme bioconservatives overcome with nostalgia for the past, leading them to model both their society and all visible technology after some earlier period in history, typically some time between zero and 50 years BF.

There are even a few habitats that totally disregard commonly held feelings about forks and merging. Such community members regularly split off multiple forks when they awaken and plan their day and then merge the various forks when they go to sleep that night. Some forks remain infomorphs for the day, while others use one of the various morphs the individual owns or rents, which means that each resident typically lives between two and six separate lives every day. A few societies, like the home of the infamous Pax Familiae, go even further—all residents are forks of the same individual. In some of these solipsistic habitats, the forks are all expected to use cloned morphs, while in others each fork is considered a separate person who should go and forge their own unique life. Some of the less extreme manifestations of this type of habitat include places inhabited by families that are partially or entirely composed of forks of one of the members (the various forks tend to be treated as siblings).

Technology

Technology pervades all aspects of existence in *Eclipse Phase*. Most individuals understand that unless humanity suffers another event like the Fall or they personally suffer some very serious and unlikely accident, they are unlikely to permanently die. More people are now planning for a very long future. For most people these schemes are fairly minimal, but they often include an awareness that few, if any, relationships are likely to last an entire lifetime. However, functional immortality is only one of the many wonders of the modern world.

LIVING WITH INFOTECH

For anyone with basic mesh inserts (p. 300) or an ecto (meaning about ninety-six percent of the population), life is filled with data. For people with the best implants, all information available on the mesh is available at a thought. For everyone else, it only requires a brief pause to access and understand it. When someone pauses and looks a bit distracted in the midst of a conversation, everyone understands they are accessing data and lack the implants to allow them to do this subconsciously or via multi-tasking. As a result, when a group of people are discussing a topic and no one immediately knows an answer to a question, such as the title of a performer's first vid, within a few seconds everyone has this information. Similarly, when someone walks through a garden, with a glance and perhaps a brief thought or small finger motion, they can call up detailed data on each and every species of plant that sits in front of them. Individuals going to remote areas that are out of normal mesh broadcasting range almost always either carry a farcaster-link with them or download truly vast amounts of data into their implants or ecto so they can continue to access all the data they might need. Since even a basic implant can hold vast amounts of data, lack of storage space is rarely an issue.

Access to such a vast amount of easily available information has resulted in a variety of cultural

OPENING PANDORA'S GATE

The discovery of the first Pandora Gate on Saturn's moon Pandora shortly after the Fall was a watershed moment in transhuman history. The prospects this discovery raised were simultaneously fascinating and terrifying. On one hand, technologies far beyond anything transhumanity was capable of were now in our hands. This raised visions of a horizon far beyond the horrors of the Fall, where transhumanity would expand across the cosmos, visiting wonders that seemed perpetually far out of reach, even for near-immortals. On the other hand, the possibility that these gates were relics of the TITANs could not be discounted. Their existence opened the possibility that the TITANs might one day return, or that transhumanity might still encounter them out in the galaxy at large. The alternative was even scarier—that the gate could be of extraterrestrial origin, and the things more dangerous and frightening than the TITANs might stalk the space between the stars.

Various hypercorps, governments, and other factions threw their brightest minds into solving the mystery of these "wormholes." Numerous scientific communities pooled resources—backed by private sector funds—and cracked the code of the Pandora Gate in just over a year. Not only was the gate activated, but it could be programmed to open connections to numerous distant star systems (one at a time). Though these controls were unreliable at best—connections sometimes closed without warning, and others could not be recalled though they had been opened before—the functionality was stable enough to use them in earnest. At the same time as their very public announcement concerning this seminal achievement, the Gatekeeper Corporation was formed overnight: a merger of those same scientific communities and their financiers.

Less than a year from its first operation, the hypercorp opened the gate to "gatecrashers:" explorers who risk their lives to see what lies beyond. Many of these died horribly; some were even lost forever, but a few made fantastic discoveries such as new worlds and new life. Though none of the (living) alien lifeforms encountered so far have been sapient, many of the worlds are habitable or within the possibilities of terraforming. Along with these wonders were found more disturbing things: evidence of a long-dead alien civilization (the Iktomi), and signs that the TITANs had passed these ways before.

Additional gates were soon discovered throughout the system. Unlike the spirit of cooperation that surrounded the first gate's discovery, these others were seized as hotly contested resources. Initially used for research and exploitation, many of these gates are now being tasked for colonization purposes. Dozens if not hundreds of exoplanet stations and colonies have been established, some with significant numbers. There has been no lack of poor or desperate individuals willing to risk life on an alien world, if it means an iota of improvement in their lives.

Though it is now widely accepted that the gates are the means by which the TITANs evacuated the solar system (a hypothesis which fails to answer why they did so), they appear timeless in their construction. Regardless of their origin, the gates remain one of the most prized and dangerous of technologies.

The five known Pandora Gates within the solar system, their locations, and their controlling entities, include:

- **Vulcanoid Gate:** Caldwell (Vulcanoids)—TerraGenesis
- **Martian Gate:** Ma'adim Vallis (Mars)—Pathfinder/Planetary Consortium
- **Pandora Gate:** Pandora (Saturn system)—Gatekeeper Corp.
- **Fissure Gate:** Uranus—Love and Rage Collective/Anarchists
- **Discord Gate:** Eris (Kuiper Belt)—Go-nin Group/Ultimates ■

responses. Being able to quote from any vid, old movie, book, or historical speech is now trivially easy and can be done with a few seconds of thought. While children and young teens often play by interjecting large amounts of semi-appropriate famous quotes in their speech, most adults only do so for emphasis and in moderation. People who quote from other sources too often are considered dull and unimaginative. Recognizing such quotes is quite easy, since someone can simply set their muse to alert them to the nature and identity of all lengthy quotes they hear.

All experienced mesh users also learn (typically as children and teens) how to avoid taking too much time out from conversations to check facts or access information via the mesh. Teens regularly mock their fellows who pause too often or too long in conversations to look up further information on a topic someone mentioned, or who spend too long trying to assemble facts to support an argument. Terms like "meshed out" or "drooler" are used by teens to mock each other into learning how to be both discreet and faster in their information searches, at least when also interacting with others. While adults rarely engage in the same sort of direct and obvious mockery, people who get too lost in casual or conversational meshbrowsing are widely viewed as socially inept. As a result, implants that allow multi-tasking or temporarily speed up thought are in great demand, since they allow individuals to do extensive research and rehearse each statement they are going to make without a moment's pause. People who can afford such software almost always seem more suave, charismatic, and intelligent than those who do not.

All this means that those who lack all mesh and AR access—individuals known as *zeroes*—present a stark contrast to the rest of transhumanity. To most people, zeroes seem slow, forgetful, and almost unbelievably dense, while to zeroes, even people who only possess ectos or basic implants seems brilliant, witty, and able to comprehend things with almost inhuman speed.

Going Beyond the Known

One of the oddest experiences for gatecrashers and others who explore unusual environments such as the ruins of Earth is the unavailability of data. They look at an alien plant or a TITAN-mutated person, and their search returns various error messages meaning that there is either no data at all on the subject or that the only data is purely speculative and should be regarded as dangerously unreliable. This can be especially troubling when the subject in question is a small creature that has just landed on the person's shoulder and the individual wants to know if it's harmless or deadly. Most people who are less than sixty years old have never been in an environment where they could not gain basic information about everything around them at a glance. Learning to overcome the shock of not knowing anything at all about something is one of the first and most crucial skills all gatecrashers must learn.

Muses

Most individuals have a dedicated AI that serves as their media agent. Commonly known as a *muse,* this AI has been a lifelong companion for most people less than seventy years old. Muses learn their owners' tastes, habits, and preferences, and do their best to make life and technology use as easy as possible. Muses can be alarm clocks, data retrieval gophers, appointment schedulers, accountants, and many other functions often limited only by their owners' imaginations. Some of their tasks do not even need to be assigned them—muses are skilled at figuring out people's needs and acting on them. For example, the muse's scheduling function may tell it when its user needs to be up in the morning, and it will act as an alarm clock without any additional instructions from the user. If a muse is uncertain about its owner's preferences, it asks, but after working with a user for a few decades muses rarely need to do this. Most people keep multiple back-ups of their muse, because the loss of a muse

can be almost as traumatic as the death of a loved one. Using a generic muse who must be informed about all aspects of a user's individual preferences and fed a constant stream of instructions helps people appreciate the value of their own personal muse agent. Muses generally learn the basics of a new user's preferences in a month or two, but during that learning period the user tends to be irritable and forgetful, since the tasks they generally trust their muse to do automatically are not being taken care of.

Attitudes Toward AGIs

The vast majority of transhumanity blames the Fall on rogue seed AIs (self-improving artificial intelligences). As a result, any AIs that are not crippled or somehow limited from improving themselves—including the AGIs (artificial general intelligences) that were common and growing in number before the Fall—are completely illegal in many habitats, or at least heavily regulated. The Fall ended only slightly more than a decade ago, and many transhumans consider AGIs and the TITANs that murdered their homeworld to be one and the same.

In addition to strict anti-AGI laws, there have been occasional riots and mass panics surrounding facilities still performing AGI research, which has pushed most such research into isolated settlements. Nevertheless, there are still people passionately devoted to AGIs; some see them as the next step in posthuman evolution, others value all sentience, and still others actually worship them. However, AGI supporters have learned to keep their opinions private in mixed company, lest they be branded an agent of the TITANs.

In some spots, mostly in the more anarchistic outer system, attitudes towards AGIs are more relaxed and AGIs may even be openly welcomed. These places recognize that AGIs are not the same threat posed by seed AIs and it is unfair to punish one for the actions of the other. Naturally, these places are havens for the AGIs active in transhuman society, who otherwise must disguise their true natures.

In the tightly-controlled inner system, the hypercorps and the Planetary Consortium foster anti-AGI sentiments both as safety measures and as protection against possible competitors. This latter point is one of the things that makes them attractive to some people in the outer system; they understand the great advantages their factions gain … assuming, that is, that those AGIs share your goals and ideals.

Attitudes Towards Mental Alterations

In the post-Fall solar system, technology can alter people's minds; controversy about many of these alterations remains. Few people have trouble with the idea of creating short-term forks using the multi-tasking augmentation or some similar process that insures the forks will be re-integrated within a few hours. However, the idea of long-term forks, and especially of allowing forks to gain access to their own separate morphs, troubles many people. Since there are not enough morphs to go around in the first place, providing morphs to a fork strikes many people as selfish and wasteful. As a result, on the rare occasion that people sleeve one of their forks, they typically provide it with a synthmorph to avoid the social stigma associated with using more than one body at a time.

Forks that exist for more than a few hours inspire discomfort in many people because the forks begin to diverge slightly in personality. Most people find the idea of two different and distinct versions of themselves to be somewhat disturbing. While there are habitats (mostly in the outer system) where forking is a regular part of daily life and forks often exist independently for a day or two, most visitors find such habitats distasteful and bizarre.

However, while voluntary forking is still regarded as somewhat odd, involuntary uses of this and the associated mental technologies are so horrifying that they form the basis of much lurid crime fiction. Someone being unknowingly mind-napped and having an involuntary—and often secret—fork created is something that people regard with abject terror, despite it being quite rare. Similarly, while mental surgery to correct psychiatric problems or as punishment for various serious crimes is frightening and disturbing in its own right, illegal brain hacking draws horror and disgust from almost everyone in the solar system. Penalties for involuntary forking and mind hacking are exceptionally high. In many habitats, they are among the few crimes punishable by death (including the destruction of all backups and forks).

Travel

Travel between habitats and other transhuman colonies is both exceedingly easy and fairly costly. Long-range egocasting is expensive, as is acquiring a morph at the destination. Travelers have developed various ways around this obstacle; for example, if someone only needs to visit another habitat for a few days and is visiting primarily to engage in real-time communication, they often choose to remain an infomorph for the duration of their visit and to communicate via AR, thus saving all resleeving expenses. For visitors who require a morph but will not be staying long, most habitats offer the option of renting a generic splicer or synthmorph or, for a slightly higher cost, a generic exalt morph. Habitats or worlds with unusual requirements, like Mars, Europa, or the various zero-g habitats offer ruster, aquanaut, or bouncer morphs instead of splicers. These morphs can be used for up to a week without much difficulty, and using one for up to a month is usually possible with sufficient negotiation and payment. Meanwhile, the traveler's previous morph is kept in medical stasis back in their home habitat, waiting for their ego to return.

Another technique is morph trading by people from different habitats who know each other and who are traveling at the same time. A few people do this with strangers they meet on the mesh, but vids and other entertainments are filled with tales of people having

their morphs or their identity stolen. A few of these horror stories are based on actual accounts. Very few people are willing to let anyone they do not know and trust use their body, and many people simply will not lend out their morph to anyone at all.

Some people, however, are willing, for a fee, to act as a living "taxi" for a visiting infomorph, carrying it around with them. In these cases the "ghostriding" infomorph is not permitted to control their host's morph directly and is simply a passenger along for the ride, issuing directions and communicating with their transporters electronically.

Travelers who wish to either immigrate to a new habitat or visit one for several months or longer must acquire their own morph. Usually, they reduce the cost of acquiring a new morph by selling their previous morph to a body bank. Alternately, some individuals sleeved in expensive custom-designed morphs who are traveling relatively short distances will rent a generic shell for several weeks and arrange to have their old morph shipped to them on a fairly rapid freighter. Doing this is rarely more than a moderate expense, which makes it less expensive than the costs of buying or replacing high-end custom modified morphs.

PRIVACY

Privacy is a prized possession for most inhabitants of the solar system, but it is so rare that for many people it might as well be a foreign concept. In the 20th and early 21st century, privacy consisted of two concepts that are now completely separate—the ability to remain unnoticed or anonymous and the ability to avoid unwanted intrusion. The first is largely absent from the lives of most people in the present day. Anyone who uploads anything to a non-private portion of the mesh understands that anyone who wishes to do so can gain access to it. Likewise, anyone who spends time in a public place understands that anyone can learn where they went, what they did, and what they said due to the ubiquity of meshed, sensor-enabled devices. As a result, everyone's public life, both on the mesh and in person, can be transformed into an easily searchable database. Almost everyone keeps such a record of their own lives, commonly known as a *lifelog*. Most people allow their lifelogs to be public, understanding that anonymity is now an archaic concept.

While the interiors of private dwellings remain free from continuous surveillance, almost all habitats have emergency sensors in every building providing a full record of events to emergency service workers and AIs in case of problems such as dangerous chemical leak, a sufficiently large fire, an explosion, loss of air pressure, or some other equally dramatic and potentially dangerous event. Both the events of the Fall and the fact that almost all of humanity now lives in habitats surrounded by hostile environments mean that such sensors are standard fare. A few habitats do not allow emergency sensors in private dwellings, but most people regard these habitats as potential death traps. These emergency sensors do not record anything other than the absence of potential dangers if they are not triggered by specific events. This limitation allows individuals privacy within their own residences—as long as they are certain no one has planted a secret recording device in their home. Ultimately, remaining unobserved is a matter of both care and trust, and everyone understands that most of the time everything they do will be part of the vast public record.

In vivid contrast, the freedom to avoid unwanted intrusion is carefully prized by the inhabitants of the post-Fall era. Unwanted personal or data intrusion into someone's private dwelling or personal electronic files is a crime in most habitats and a serious crime in many. Also, while both the mesh and augmented reality are filled with all manner of AI-mediated adware, most of it has evolved to be relatively benign and to provide non-intrusive suggestions about goods, information, and services that are likely to be of legitimate interest to the targeted person. An individual's muse filters out unwanted advertising. While it is certainly possible to create advertising that can hack through any muse's filters, doing so is usually illegal.

Unwanted AR intrusions are similarly limited. During the early days of AR technology, there were serious problems with users being overwhelmed with unrequested and distracting input—as many said, the mist got very thick indeed, so both law and custom changed to prevent such invasions. Today, most people expect to only experience data that they are looking for or that they might be interested in, and that any data they are not interested in will quickly vanish. Being surrounded by a large amount of unwanted AR data is not just annoying and distracting, it is also deeply

SOLARCHIVE SEARCH: INCAPACITATING INPUTS

During the Fall, the attacking TITANs used a variety of AR and online intrusions that interfered with or even incapacitated their targets. The most basic of these were deceptive AR illusions made to convince people that their physical environment was very different from what it actually was. This fooled people into attacking their fellows or simply instigated mass panic. More advanced versions targeted the empathic elements of AR, triggering fear or other emotional responses. Still others blasted their targets with overbearing sensory input, so strong that it bypassed filters and inflicted neurological damage.

Despite rumors and fears of so-called "basilisk hacks"—visual or other sensory-input attacks that allegedly subverted transhuman minds by exploiting the way brains processed such data—no credible reports have been verified. ♣

frightening, because it means that there is a serious problem with either the habitat's mesh or the person's electronics—it could even mean that the entire habitat is under direct attack by infowar weapons.

Low-Tech Existence

More than ninety-five percent of humanity inhabits artificially created morphs. Most of them also possess basic implants, and the vast majority of the rest wear ectos with retina displays and other simple peripherals that allow the user to fully perceive and interact with the vast network of information around them. However, slightly less than four percent of the remaining population inhabit flats or splicer morphs without basic implants and also lack access to ectos and other basic technologies.

Since an ecto is both a relatively trivial expense and a piece of equipment vital to existence in the solar system, the only individuals who lack such technologies stand on the very lowest rungs of the social ladder. A few are the poorest members of the most marginal habitats, but most are slaves or the next best thing to them. The lowest social classes in the Jovian Republic lack personal infotech access and so do the lowest class of people indentured to the hypercorps and the Planetary Consortium, particularly on Luna and Mars. These individuals are either indentured criminals or people sufficiently lacking in useful skills that they are assigned mindless physical tasks that cannot be more efficiently performed by AIs.

The lack of mesh access makes these unfortunate "zeroes" into mental and social cripples, unable to perceive the vast wealth of AR that most people take for granted. They are also unable to communicate with anyone beyond the range of their voice or to access almost all information, including traffic signals and shop displays. When necessary, the managers and overseers in charge of groups of zeroes allow them access to handheld meshbrowsers. These devices resemble the handheld terminals common in the early 21st century and have limited functionality, typically forbidding communication and restricting mesh research to carefully filtered topics.

Because of their inability to access AR or the mesh, zeroes are almost completely isolated from everyone else, meaning they are also unable to organize effectively or to otherwise cause trouble for the people who control them. In much of the outer system, the existence of zeroes is considered one of the greatest crimes against transhumanity perpetrated by the Planetary Consortium and the Jovian Republic.

Life, Death, and Morphs

While death is no longer a certainty for transhumanity, it remains a possibility. During the decade preceding the Fall, most of humanity was growing used to the idea that immortality was in their grasp. Then, in just a few short years, the TITANs wiped out more than ninety percent of us. Faced with the horror of so much needless death, efforts to insure the lives of surviving humans became a top priority. Now, the technology of immortality—uploading, cortical stacks, and other related wonders—is commonplace.

Today, most of the residents of the solar system have adjusted to this fact (except for the most extreme bioconservatives); everyone expects both to live forever and to have their friends, loved ones, and enemies do the same. While death is rare, though, it is still possible. Severe accidents can destroy someone's cortical stack as well as their brain, and egos can also be wiped away in punishment for sufficiently heinous crimes—though the process of execution is considerably more difficult than it had been a few decades earlier.

For most people (with the exception of those too poor to afford a new morph), non-permanent death is an annoyance equivalent to events that most people in the late 20th century regarded as moderate misfortunes, like a bad stomach flu or a broken arm. In almost all habitats, if anyone is responsible for someone's temporary death, either accidentally or on purpose, they are also responsible for paying for the person's resleeving in an identical morph, especially if that person does not have some form of resleeving insurance. People who have temporarily died can expect to receive visits from everyone they are at all close to after their resleeving, as well as a host of e-cards and perhaps a few gifts from their acquaintances and colleagues, all expressing sympathy at their death and welcoming them back to the world of the physically embodied. Exchanging such "life gifts" is an accepted part of belonging to many professions such as emergency service workers, where members regularly risk temporary death.

Deliberately choosing to change morphs or to temporarily become an infomorph is treated differently. People typically spend at least a day or two between deciding to change morphs and actually doing so. During this time, it is considered polite for someone to inform everyone they know well or work with about their upcoming resleeving. Along with personal visits, as well as calls and e-cards detailing the time of the upcoming event, the person who is resleeving is expected to include an image of what their new morph will look like, so people they know will be able to easily recognize them. However, it is considered gauche for someone who is upgrading to a better morph to include details about their new morph. Within a few days of resleeving, a "resleeving party" is typically held to introduce everyone they know to their new morph. Depending upon how well-off, well-known, and social the individual is, these parties range from lavish affairs held in hotel ballrooms to small intimate gatherings in the person's home.

Permanent death is treated very differently. Because it is both relatively rare and no longer expected, the old funerary rituals surrounding death have faded and new traditions have grown in their place. Since every death reminds many people of the billions who permanently died during the Fall, most of the few funerals that are held honor both the person who just died as well as the victims of the Fall.

SYNOPSIS
WELCOME TO FIREWALL
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MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

LOST LORE

The accumulated knowledge and media of Earth, spanning the history of human intelligence, is a vast and impressive amount. Even before the Fall, many orbital settlements had acquired complete records of all previous human lore and creativity, including copies of every book, painting, song, film, TV program, console game, newspaper, and magazine article that had ever been translated into digital format, as well as backups of Earth's entire internet archives. Numerous destructive programs unleashed during the Fall corrupted much of this information, however, in some cases permanently wiping it from existence.

This means that what remains of Earth's archived history and data is patchy and incomplete. Much survives, but some treasures have been lost. In particular, media from the era of the Fall itself is particularly hard to come by, given the consistent attacks the TITANs were making on information systems. Proprietary data that was withheld from the public domain behind electronic gates on Earth is even more likely to have been lost, except for a few hypercorps that managed to transfer their Earth-bound data off-world in time.

Retrieving lost data is a lucrative task for scavengers and archeologists, though looting the dangerous confines of Earth or derelict habitats destroyed during the Fall is a risky proposition. ■

ENTERTAINMENT AND MEDIA

A substantial amount of media survives the Fall of Earth, and a significant number of modern transhumans make their living creating new songs, stories, reports, or other media. All of this is easily and swiftly accessible through any basic implant, ecto, or (on very rare occasions) archaic handheld terminal. However, most of this media is not to the taste of any particular individual, and vast amounts of it are mediocre. As a result, most humans keep two layers of evaluation between them and anything they might consider exposing themselves to.

The first layer is based on popularity and critical reviews. Every piece of media has a rating, often weighted by the opinions of critics with high rep scores who comment on their virtues and faults. Specialized AIs also evaluate the responses of consumers, so individuals can use reviewers they trust or they can seek out media that is either widely or specifically popular in their particular demographic and subcultural niche.

The second filter layer is the individual's muse. Muses learn their owner's tastes and moods and automatically search out and recommend various sorts of media. Individuals can do everything from asking their muse to select something they will enjoy, to

asking for a something that will challenge their opinions, to looking at all current events news that will be of interest to them. Muses use their understanding of their user's preferences, mixed with ratings and reviews, to make their decisions. Individuals can even set their muses to edit all media so that they better fit with the person's interests and preferences. In the most extreme cases, this process can twist and edit news so that it bears no relation to real events. This same process is used to make the characters and dialog in novels and vids more appealing. More commonly, the muses merely edit out aspects of a news story or article in which the individual is not interested.

Ratings, reviews, and muses allow individuals to avoid media overload, but they also reinforce subcultural barriers. A great many people only seek out media and news that reinforces their existing opinions and beliefs. Xenophobic individuals who distrust all non-humans, from uplifted octopi to the Factors, regularly view news stories and AR dramas about evil aliens and devious uplifted animals who commit heinous crimes. Similarly, individuals who are only interested in their own habitat have all external news altered by their muses so that it refers only to the effects outside events will have on their station.

In a very real sense, individuals from radically different subcultures and demographics inhabit completely different worlds. The one force that works against this separation is the fact that many people wish to follow the lives and opinions of those with the highest reputation scores. In many cases, a large portion of these individual's high rep scores comes from their interest in and willingness to interact with (or at least acknowledge) a wide variety of different sources of information. As a result, listening to opinions by a high-rep celebrity can expose people to information that they might never encounter otherwise. Also, in many habitats, AIs responsible for media distribution tag some news as being sufficiently important that it should be immune to filtering by muses. This tagging is a regular and expected occurrence in some habitats, while in others it is reserved for only the most important and potentially life-saving information. Bypassing muses for any less important reason in these stations is considered a gross invasion of privacy or even a crime.

Popular Types of Entertainment

The most popular forms of electronic entertainments are vids, vidgames, VR worlds, XP, and AR games.

Vids and Vidgames

Vids are passive entertainments that can be enjoyed either as high-resolution audiovisual entertainment or as a fully immersive experience where the viewer can augment their experience with smell, touch, and taste while experiencing the point of view of one of the major characters. Viewing them purely via sight and sound is much like watching an old 20th-century film, except that it's interactive and in 3D. In contrast, full sensory viewing is much like actually being present in the story.

Most modern vids have variable theme and preference settings enabling viewers to adjust the content of what they are watching, including the level of violence, the amount and type of sexuality they prefer, as well as the appearances of some or all of the major characters. In addition, many vids have several alternate endings for people who prefer happy, bittersweet, or grim endings. As a result, two people watching the same vid could have very different experiences if they use radically different settings.

Vidgames are like vids, except they are much more flexible. In vidgames, the viewer not only experiences the story with the protagonist—they become the protagonist, shaping the story through their own actions, similar to sophisticated early-21st-century console games. Some games allow the participation of up to a dozen individuals or link thousands of players via the mesh, while others are designed for a single player.

Metacelebrities

As the culture industry quickly discovered, biotech and resleeving technology clashed with the media's ability to focus the spotlight on specific icons. When everyone can be bodysculpted, the beautiful people need to be more than glamorous faces. More to the point, the public's interest in celebs faltered when famous people repeatedly changed their looks and were no longer immediately recognizable.

One of the ways big entertainment has responded is to promote metacelebrities—icons based on characters rather than real people. Each metacelebrity has their own (very expensive) unique customized morph, but the person sleeved within that morph often changes. The actress Angelique Stardust, for example, once existed as a real person, but is now a character who has been played by over a dozen people since the original rose to stardom in AF 3 and promptly sold off her celebrity character rights to Experia. Likewise, award-winning heart-breaker Juan Nguyen is a constructed persona based entirely on the action hero star who died and was lost during the Fall. Many metacelebrities are modeled on fictional characters; notorious bad girl Sun Mi Hee is no different offscreen than the ass-kicking villain role that brought her to fame, never traveling anywhere without her iconic pair of glowering smart leopards. Actors taking on a metacelebrity role often undergo psychosurgery to better play the part.

Metaceleb personas are strictly managed and marketed as a media product to appeal to specific consumer groups. Though they play an active role within hyperelite circles, many of the genuine glitterati view them with humor at best, disdain at worst—though some have learned the hard way not to underestimate or mess with the small armies of media engineers behind each metaceleb's carefully crafted image. ♣

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THE MESH
ACCELERATED FUTURE
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REFERENCE

The degree of freedom in vidgames varies. Some are almost fully interactive realms similar to many VR worlds with all but a few characters controlled by AIs, while others are considerably simpler and more limited, with player interaction limited to a few crucial decisions. The precise dividing line between vids and vidgames is blurry, but both media have the common trait of being designed for either solitary use or for use by a few players or viewers who are all located relatively near one another. Vids and vidgames are the most popular forms of entertainment, with vids and vidgames set on Earth before the Fall being especially prevalent.

XP

Experience playback (XP) is a specialized type of vid that consists of the recorded sensory impressions of a single individual. Almost all of the inhabitants of the solar system lead relatively quiet and risk-averse lives and are naturally eager to be able to vividly experience adventures such as climbing Olympus Mons, spending a day in one of the most luxurious and exotic private habitats, going on a scavenging mission to Earth, or gatecrashing. There is also a thriving fringe market in less savory XPs, including records of people committing all manner of violent or dangerous crimes and XPs of actual gun battles between well-armed criminals and law enforcement personnel, which often end with the death of the morph providing the point of view.

Anyone with mesh inserts can create an XP of their past experiences, and anyone with an ecto or mesh inserts can access the sensory recordings. Selling a particularly exciting XP, such as a record of the first meeting with the Factors, can bring in a lot of money or rep. Most XPs consist of both sensory recordings and the surface thoughts of the individual who made them. Many people who access XPs are only interested in the sensory recordings and feel that having another person's recorded thoughts and emotions in their head is intrusive and uncomfortable. However, some hardcore XP aficionados feel that accessing the full XP, including the recorded emotions, makes the experience more immersive and real.

A significant minority of XP fans becomes fascinated with one or two daring people who regularly sell XPs, known as *X-casters,* viewing all of their clips, including both the experiences and the accompanying thoughts. Some of these XP fans become more interested in the person who recorded the clip than in the individual experiences, and they often come to believe that they have a special, clear understanding of this person, to the point where they strongly identify with this person or even fall in love with them. In addition, individuals who access XPs from a single person often enough sometimes begin to mimic various habits or figures of speech of this person. Particularly popular X-casters are sometimes rather disturbed when they see tens of thousands of people imitating one of their more idiosyncratic expressions or habits.

A few serious fans—known as *Xers* (pronounced "ex-ers")—alter their morphs to resemble their favorite X-caster. Some obsessive Xers actually attempt to contact and stalk certain X-casters, perhaps hoping to become part of an actual XP clip. In most habitats and subcultures, Xers are widely regarded as having particularly dull and meaningless lives. Hardcore Xers are often viewed as being insecure and potentially unstable.

AR GAMES

Augmented reality (AR) games involve players interacting both with events in the physical world and with augmented reality imagery that recasts the people and objects the players see. For example, instead of seeing another player in a splicer morph and ordinary clothing, a player of an AR game might see a horrific rotting zombie, a bizarre alien life form, or a well-armed soldier. These games tend to be locally focused within a particular habitat or city as they allow players to interact when they are within physical proximity, but some games link habitats within the same cultural region.

The nature and intensity of these games varies widely. Some are long-term games involving people imagining that they are deep cover spies or some other exciting and unique role. Players may pretend to be anything from time travelers attempting to prevent some horrible disaster to covert agents attempting to uncover plots by TITAN-infected people on their habitat—who happen to be camouflaged as snack designers, personal assistants, etc. During their daily lives, players exchange messages with each other as well as with the people running and maintaining the game. Some of these long-term AR games have gone on for many years, with the oldest being almost twenty years old.

Short-term AR games, on the other hand, last between several hours and several days. The people running these games typically rent out a hotel or a park and various public buildings for the duration. These games are almost always highly dramatic and consist of everything from the players having to deal with a massive zombie attack or alien invasion to them participating in some simulation of an event on Earth, like the storming of the Bastille during the French Revolution. While such AR games can be considerably less detailed than VR worlds or vidgames, many players value the "realism" of being physically present during the game.

Since participants in AR games take actions in the real world, including actions that could be disruptive or even dangerous, designers of AR games take great care to prevent problems. In some early AR games, most of which took place more than twenty years before the Fall, players were occasionally seriously injured. A few unscrupulous AR game designers used their game as a cover for an actual robbery or act of terrorism that was abetted by unwitting players who thought their actions were simply part of a game.

Since that time, law enforcement observation drones have kept careful track of people playing AR games. In almost all habitats, people running AR games must register their games with local law enforcement or face serious fines.

VR Worlds

Virtual reality (VR) worlds are entertainments that involve the creation of a large and highly immersive simulated environment—a *simulspace*—where many major characters are played by transhumans or other sentient beings. Unlike vids or vidgames, simulspaces are specifically designed for a large number of participants. VR worlds consist of everything from duplicates of various eras of Earth history to elaborate and strange fantasy worlds with magic, dragons, and similar wonders. All manner of alien worlds or settings based on oddities like time travel are also common. As is the case with vids, the most popular simulspaces are those set on Earth some time before the Fall.

VR worlds can have from dozens to tens of thousands of participants. For the best experience, many users prefer to access simulspaces through hardwired server connections as they offer better quality and less disruptions than accessing wirelessly via the mesh. Since people immersed in virtual reality are cut off from their bodies and often thrash around, most users ensconce their morphs in a tank or special couch for the duration. VR parlors typically offer private hardwired pods for participants to physically jack in. Many habitats also have hardwired systems used just for this purpose, so users can experience VR from the comfort of their own dwellings.

Due to distance and communication lags between habitats, even the most popular online simulspaces run each habitat as a separate realm, limiting interaction with users in other habitats/realms. The popularity of VR worlds like Gilded Empire, set in England in the 1880s, means that someone moving from one habitat or world to another could continue playing in the same game, albeit with a new set of players.

One of the other unusual features of VR settings is that a large number of infomorphs, including many infomorph refugees, play these games. As a result, while even most novice players can learn to easily tell the difference between a character played by an AI and one played by an actual person, there is no way to know if the person playing a character has a physical body or not.

Physical Entertainment

In addition to a vast array of electronic and electronically-mediated entertainments, people also still enjoy a wide variety of physical sports, ranging from soccer to new sports like low-g air races, where the participants strap on wings and engage in tests of speed and acrobatics. In addition, the ability to both heal any injury in a healing vat and to remove a cortical stack from a dead or dying body and place it in a new morph has given rise to a new variety of extreme sports. Starting a decade before the Fall, various individuals began realizing that, barring unlikely circumstances, they could not die unless they wanted to. This set off a brief trend in extreme sports and even a few wealthy suicide hobbyists, who repeatedly killed off their current morph in a variety of unusual ways. The Fall and the permanent death of more than ninety percent of humanity greatly reduced the interest in playing with death for many years. Killing yourself just to experience death is considered at least mildly distasteful, and many believe such actions belittle the mass deaths of the Fall. Though interest in risking death in the line of entertainment has been growing, deliberate suicide remains an eccentric and dubiously regarded hobby.

In some subcultures, dueling has been a popular fad for almost a decade. Swords, knives, and pistols firing single-shot soft lead bullets are all popular choices, because none of these weapons poses any threat to a cortical stack and most do not instantly kill someone hit by them. However, there are other more exotic options, including aerial duels with microlights fitted with blades on their wings. On rare occasions, duels take place in space, with the participants wearing non-armored vacuum suits. Certain criminal groups make money with underground dueling circuits, pitting biomorphs against robots against uplifts. The seedier circuits engage in distasteful pit fights featuring illegally-acquired backups sleeved into non-sentient animals, often outfitted with lethal cybernetics. Such creatures are typically quite mad.

In addition, dangerous non-combative sports are also popular. The highest levels of competitive rock climbing on Mars are regularly done with no safety equipment. There are similar climbing competitions in many habitats using artificially constructed climbing walls as well as regular free-running competitions through almost every city and habitat. Also, there is an entire class of sports, including both diving and parachuting, where perfection of form is seen as a far more important goal than avoiding injury or even death. As a result, current high dive records for morphs not specially modified to survive high impacts are held by individuals who required either time in a healing vat or resleeving immediately after their successful breaking of a previous record.

POLITICS AND POWER

Politics is just as important in the colonies spread throughout the solar system as it was back on Earth, but it is also radically different. Each habitat or cluster of stations is a separate political entity, and many of these habitats are fiercely independent. The only locations where large political entities can exist are on the marginally habitable worlds of Mars and Europa, and the population of Europa is significantly smaller than that of many of the largest pre-Fall cities on Earth.

THE INNER SYSTEM

Though nations no longer exist, they have been replaced by new political-economic entities that may well have been on the road to dominance even if the Fall had not occurred: the hypercorps. While there are a many independent habitats and settlements in the inner system, it is largely dominated by the hypercorps. To reduce conflict between themselves and promote the survival of transhumanity, some of the hypercorps have formed an alliance known as the Planetary Consortium. This alliance governs most of Mars and is in charge of the ongoing Martian terraforming project. It also controls several dozen other habitats and many Lunar bases, mostly ones that are in some way involved with the massive Martian terraforming effort.

Since Mars is home to more than forty percent of the surviving transhuman population, most of the human population lives under the rule of the hypercorps or the Planetary Consortium. In the aftermath of the Fall, the hypercorps established three important goals: rebuilding the solar system, protecting themselves from any further attacks (either by the TITANs or any other threats), and growing in both wealth and power. By extension, the second goal means they also help protect the people living in the habitats and settlements against any repeat of the Fall. The hypercorps and the Planetary Consortium are exceedingly skilled at attaining all of these goals. Since popular rebellion and widespread dissent are not helpful in the least in attaining these goals, the hypercorps are also adept at making certain the inhabitants of the habitats and planetary settlements they control are safe, relatively content, and, ideally, unable to cause serious problems.

As the largest and most well organized entities in the solar system, the hypercorps, and especially the Planetary Consortium, are in an excellent position to protect the people living in their habitats and settlements. However, this protection comes at the price of freedom. Living in habitats that use transitional economies (p. 61), the inhabitants of hypercorp-controlled settlements are relatively well off and need not fear starvation or serious want. Also, the hypercorps strongly oppose bioconservatism, and so anyone who can afford various augmentations or morphs is free to obtain them, as long as none of these augmentations or morphs is equipped with weaponry that can be used to harm the habitat or large numbers of its inhabitants. In return for safety and relative prosperity, however, inhabitants give up any ability to voice more than token criticisms of the hypercorps of the Planetary Consortium.

THE POWER OF THE HYPERCORPS AND THE PLANETARY CONSORTIUM

The hypercorps and associated Planetary Consortium are the only major non-local political entities in the solar system (with the possible exception of the Autonomist Alliance, which is more of a mutual aid pact than a unified political entity). All of the other political entities are based in a single specific location. The various hypercorps transcend location, however. They have offices and branches all over the solar system, serving the needs of people from Pluto to Mercury and all places in between. While most hypercorps

have large manufacturing and processing installations on Mercury or Venus, making use of the abundant energy of the first and the complex chemistry of the second, much of the work performed by all of the hypercorps involves developing new technologies and new cornucopia machine templates, both of which can be done in any place that has meshbrowsing access.

In addition to bases on Mercury, Venus, and other equally resource-rich locations, all hypercorps maintain dedicated research and manufacturing stations scattered throughout the solar system. Well-known facilities include Starware's vast shipyards, the largest of which are located on Luna and the asteroid Vesta, and Omnicor's huge antimatter factory orbiting Mercury. There are many other lesser-known facilities, including the automated mines that the mysterious Zrbny Group maintains in the main asteroid belt and Saturn's rings, and the qubit factory Nimbus maintains in Mars orbit.

In addition, there is an even larger number of secure and often secret research installations, some of which are so well hidden that they are normally only accessible via highly secure egocaster connections. All manner of mysterious and often highly dangerous research occurs in such locations, ranging from experiments with the relics of the TITANs to attempts to create self-replicating nanotechnology or artificial miniature black holes. Vids and vidgames are filled with stories both of exotic disasters in such research stations and of heroic thieves stealing amazing wonders from them. While the reality of secret corporate research bases is normally far more prosaic, sometimes wonders are created—and there have been occasional disasters, often involving TITAN relics.

Some corporate headquarters are similarly secure and secret, including the corporate headquarters of the fabled Zrbny Group. There are a wealth of rumors and stories about such locations. Intrepid spies, thieves, and reporters regularly attempt to gain access to these facilities, generally without success. Many such attempts, especially by would-be thieves and spies, end with distinctly negative consequences, including the thieves' temporary (and on some occasions permanent) death.

Hypercorps also own and manage a number of habitats. Many are primarily homes for hypercorp employees, but in many of them at least half of the population are simply ordinary residents of the solar system who simply happen to live there. Though far less regulated than hypercorp research or manufacturing facilities, these colonies are also subject to greater regulation and security than some of the autonomist-controlled habitats on the edges of the solar system.

These stations are exceptionally safe places to live. Residents have access to all of the latest products produced by the ruling hypercorp and its corporate allies. The hypercorp habitats all either possess their own security companies or have some form of defense contract with a private security company, typically Direct Action or Medusan Shield, who agree to protect the inhabitants against potential threats by agents of the TITANs, fanatical saboteurs, or other threats.

These same security forces also protect the hypercorps from any threats to their interests. In most of these habitats, residents have fairly open freedom of expression and biological self-determination. However, all potential threats to the hypercorp and its personnel, ranging from attempted sabotage to simple civil disobedience, are dealt with quite harshly, with serious offences resulting in forced indenture and occasionally forced mental editing (see *Psychosurgery,* p. 229). Almost all of these habitats use a transitional economy (p. 61) and most residents have a high standard of living to compensate for the limits on their behavior. Many inhabitants of the more independent colonies in the belt or the outer system complain about the repressive nature of the hypercorp-controlled habitats, but inhabitants of these habitats prefer the safety and security found there to the intimidating freedom of the outer system.

To help reduce dissent, residents of settlements and habitats controlled by the Planetary Consortium as well as those controlled by hypercorps can vote on a wide variety of issues. The results of these votes, however, are only binding on issues that are not considered "matters of habitat survival," "corporate policy," or "security-related issues," which effectively includes any issue related to the security, profits, and productivity of the hypercorps involved. Votes on these issues are used in a purely advisory fashion, meaning that they are utterly ignored when the result of the vote is at odds with the hypercorps' agendas.

While residents of these settlements and habitats can vote about adding a new holiday to honor some important figure or the location and design of a new park, laws regulating indentures, habitat security, law-enforcement, or other important concerns remain under the control of the hypercorps. This does not mean, however, that the results of elections are completely disregarded. If more than two-thirds of the population strongly supports a particular issue, the Consortium or the hypercorp controlling the habitat usually finds ways to modify their current policies to address these concerns without harming their own interests. In contrast, if only a small number of residents are upset by certain policies, then these wishes are ignored and habitat security forces keep an eye out for possible civil disobedience or other forms of resistance.

In addition to these dedicated installations and hypercorp-controlled habitats, many hypercorps maintain offices in stations and planetary settlements. Almost every habitat has a Nimbus office with a farcaster and, in the case of larger habitats, QE communicator facilities for instantaneous

communication. Both facilities are open to anyone who can pay Nimbus's fees. Ecologene, Skinaesthesia, and several other hypercorps also have offices on most habitats. Every habitat interested in interacting with the rest of transhumanity has at least one automated Experia media node. In smaller habitats, these offices are unobtrusive and managed by limited AIs or indentured infomorphs. The existence of these offices, however, is vitally necessary for the continued happiness and existence of transhumanity. Most hypercorps also maintain a number of employees in every large habitat and most of the smaller ones.

Due to the large number of remaining infomorph refugees, most Experia media nodes are managed by indentured infomorphs. These infomorphs monitor the local news-finding AIs and keeps track of any important or interesting developments. They also serve as on-site reporters for any important events that might occur. While postings in small habitats are often rather dull, the infomorph usually has a contract guaranteeing them a morph of their choice and resleeving in the habitat of their choice in return for a term of service, which typically ranges from three to five years.

Similarly, all but the smallest habitats have Medusan Shield or Direct Action offices, where individuals can hire both security consultants and bodyguards ranging from simple AIs to highly trained mercenaries in fully-equipped fury morphs. These mercenaries live on the station and often hire short-term contractors to help with especially large or difficult assignments. Skilled mercenaries may eventually be hired full-time by Medusan Shield or Direct Action, but since contractors are usually given the most dangerous and thankless parts of any assignment, many soon lose interest in hypercorp contract work.

Other employees working out of local hypercorp offices range from ecosystem designers to for-hire scientists and technicians to personal financial advisors to the wealthy and powerful. In important habitats and planetary settlements, as much as twenty percent of the population consists of hypercorp employees or private contractors who are hired on a short-term basis when the local workload exceeds the capacity of the regular staff. These hypercorp employees are in the unique position of having dual loyalties—to their habitat and to their hypercorp. Despite what hypercorp propaganda preaches, the two interests do not always overlap.

Because of the delays involved in normal communication, local heads of hypercorp offices usually have a great deal of autonomy, since asking for instructions from their superiors on another habitat or installation requires either dealing with a time-lag or using expensive qubits for instant QE communication. As a result, except for the most important or difficult problems, local directors deal with all local matters on their own, reporting any unusual or potentially problematic decisions afterwards.

THE OUTER SYSTEM

Out beyond the orbit of Mars, the influence of the hypercorps and the Planetary Consortium is far more limited. With the exception of the rigidly authoritarian Jovian Republic, the inhabitants of the outer system have considerably more freedom than those living in the inner system. However, even out here the struggle between the desire for freedom and the longing for safety form an important part of the political discourse.

THE LIBERTARIAN AND UTOPIAN LEGACIES

Various forms of anarchism and similar libertarian ideologies were quite common among the first transhumans who settled space in the two decades before the Fall. Many settlements in the outer system have inherited this legacy of freedom. The new frontier opened by space colonization presented a fantastic opportunity for those with a strong desire to avoid the authoritarianism of the hypercorp-controlled inner system and Earth to pursue social organizations more based in equality and collective action, or even to simply experiment with new social models. Out beyond the belt, hypercorp influence was weak and preoccupied, giving resourceful colonists a chance to explore their interests unmolested. The more radical of these elements grew out of or maintained ties to progressive, radical, and left-wing social movements and insurgencies on Earth, drawing support where they could. Others simply stole hypercorp resources from the inner system, smuggling them to their secret projects. In a few cases, entire ships or stations mutinied, refusing corporate orders and pursuing their own path. It was rarely feasible for the hypercorps to pursue and punish such subversion.

Even among these libertines, differences existed, so that those adhering to similar socio-political tendencies tended to group together. Over time these have developed into four rough groupings: the anarchists of Locus, the techno-socialists of Titan, the anarcho-capitalists and mutualists of Extropia, and the nomadic free-for-all societies of the individualist scum. These factions form a loose alliance, a united front against the hypercorps and Jovian Republic—or as they call it, the Jovian Junta—and a pact for mutual aid and support, known as the Autonomist Alliance.

Among the more libertine habitats, the centuries-old doctrine of "From each according to their ability, to each according to their need" is a living and vital philosophy. The ready availability of cornucopia machines ensures that no one wants, and the use of reputation systems encourages people to be active participants towards the common good. Equitable access to morphs and augmentations is also available for residents, though the demand from so many infomorphs in need of a body means that infugees must contribute and build up social capital. However, even for an infomorph, egocasting across the solar system is expensive, and the Planetary Consortium produces large amounts of propaganda about the dangers of these habitats to discourage infugees from considering escape.

Many autonomists consider themselves to be engaged in an ideological conflict with the inner system, a memetic cold war that sometimes extends to physical actions. Some willingly pursue campaigns of sabotage and subversion against hypercorp and other authoritarian affairs, such as smuggling cornucopia machines into habitats where such machines are strictly regulated, like among the Jovian Republic. The hypercorps and their allies occasionally strike back, though open conflict is rare. Even though the inner system and Jovian Republic could field enough military might to subdue the autonomist factions, an uneasy detente exists. Rumors abound that the anarchists have some sort of card in their pocket that keeps their opponents at bay, perhaps even some threat of mutually-assured destruction.

Concerns over security and potential future attacks by the TITANs also impact matters in the outer system, but most people resist attempts to seriously restrict their personal freedoms in any manner not directly related to maintaining their safety. Inhabitants of the outer system still remember how the old governments' demands of adherence to bioconservativism and allegiance to distant and often unresponsive leaders did nothing to prevent the Fall from happening, and that memory fuels their mistrust of those states. Those powers were undone by failing to deliver what they promised—when they could not provide the security that they claimed their authoritarian measures would bring, the seeds of their defeat in the outer system were planted.

Space for Experimentation

Both social and political experimentation are common in many of the smaller habitats of the outer system. Because collective decision-making is fairly easy in stations with populations of less than ten thousand, direct democracy is a common method of government. A number of ideologically-based habitats have used this ease of making collective decisions as a way to get all members to agree to some unusual forms of government.

The individual variants that have been tried are too numerous to list, though they generally fit into a few general categories. A few relatively small habitats employ limited forms of authoritarianism. Some have a single leader who has great power, but who is (ideally) kept from abuse or excess through the use of limits such as a list of constitutionally-guaranteed rights or the ability of a relatively small number of people to call an election or a vote of confidence. Some colonies using this model have elected dictators who serve for a limited term, while others are ruled by a single charismatic leader who transforms their habitat into a cult of personality.

Other habitats choose their leaders by random lot, with every adult who can pass a relatively easy competency test being eligible to be the colony's leader for a period that usually ranges from six months to five years. A few habitats are governed by powerful specialized AIs, which in very few cases are actually hyper-intelligent AGIs or even seed AIs that the colony has secretly created. Several colonies populated by purely informorph or synthmorph inhabitants use special high-bandwidth connections to give their members access each other's surface thoughts and emotional reactions, allowing them to hold vast democratic political meetings where everyone present can feel the general emotional reactions of all of the other members as easily as they can feel their own.

There are a vast number of different types of government, many of which have never existed before, moving (and sometimes fumbling) ahead in the outer system. Some work far better than others, allowing successful colonies to thrive and making much of the outer system a vast and complex political laboratory.

Keeping the Peace

Each habitat is responsible for dealing with its internal affairs. As a result, standards of justice vary widely from the oppressive police state of the Jovian Junta to the free market judicial courts of the Extropians in the belt to the community justice policies of the anarchists out beyond Saturn. Travelers are strongly encouraged to check up on the legalities and policies of stations they are visiting so as to avoid unfortunate incidents, though muses are generally quite good about maintaining awareness of local conditions so that they can warn their users before straying into gray or illegal territory.

In the inner system, standards of justice and law enforcement tend to be uniform and very familiar to the majority of the population that lived on Earth prior to the Fall, where most nations had relatively similar standards of justice. Across the entire solar system, certain similar standards can be found. Though local laws may differ, there is widespread respect for the idea that punishments for religious or ideologically-based laws only apply to residents. Visitors who violate such restrictions or other minor laws are simply deported to their home and forbidden to return. Standards of evidence for criminal investigations are also common. Modern forensic technology makes collecting and analyzing DNA and other trace evidence an exceptionally swift and easy process. Likewise, with almost all habitats having what amounts to total surveillance of all public places, any potential offenses committed there can be carefully analyzed.

Standards of privacy vary widely from one habitat to another, so during emergencies or crime investigations, law enforcement officials may or may not have total access to detailed recordings of the events in any portion of the habitat including recordings from sensors in private dwellings. In some stations, law enforcement officials can compel everyone who might have been present during an alleged crime to

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

provide downloads of their sensory experiences from the time of the crime. While individuals can edit their memories, discrepancies between various people's sensory recordings are just another form of evidence. Requiring sensory downloads from witnesses and suspects is common practice in habitats controlled by the Planetary Consortium, the Jovian Republic, and most hypercorps. However, in most habitats in the outer system, law enforcement officials have no access to such records and can only compel sensory recordings from people who have been charged with serious crimes.

The power of modern forensics is such that a sufficiently careful examination of people and places can often determine the nature of a crime and the perpetrator(s) with relative ease. Decisions of innocence or guilt rarely rely upon suppositions, circumstantial evidence, eyewitness testimony or any of the other notoriously unreliable forms of evidence common in past centuries. The best way for someone to avoid being convicted of a crime is to either prevent anyone from learning about the crime or to make certain that no one suspects them as the perpetrator. Once someone guilty of a crime becomes a suspect, there is a very significant chance that law enforcement officers will be able to uncover reliable evidence connecting them to the crime. However, if there is no obvious evidence connecting a specific suspect to a crime, the criminal has a greater chance of escaping discovery.

Law Enforcement

Law enforcement in the solar system consists of a vast patchwork of separate jurisdictions, occasionally united by various treaties. Most habitats have signed the Treaty of Uniform Security that requires either extradition or on-site trial of criminals who are accused of especially serious crimes such as attempted habitat destruction, use of incapacitating infoware (including basilisk hack attacks), or any attempt to aid the agents of the TITANs in taking over or destroying a habitat. Only the Jovian Junta and a few especially antisocial or anarchic habitats have not signed this treaty, but many habitats in the outer system maintain the right to try offenders accused by other habitats rather than extraditing them. In addition, most habitats require a significant amount of evidence before they are willing to extradite one of their residents.

Outside the Treaty of Uniform Security, there is nothing remotely resembling a uniform code of justice and no widely recognized police force. Instead, each habitat or cluster maintains their own code of laws and law enforcement officers. In most areas, law enforcement is a respected and honorable profession paid for by the government, but in a few, the only options are private security agencies that only protect individuals who subscribe to their services. Among the anarchists and scum, residents are largely responsible for their own protection, which means they may be constantly armed when in public (depending

on local conditions). Depending on the stations, the most someone who is the victim of a crime can do may be to go after their attacker or post a bounty. In others, mechanisms exist for community or collective problem-solving that often involve assembling an ad-hoc grouping of peers to assess the situation, offer non-biased judgment, and sometimes pursue collective action.

The only widely-accepted law enforcement officers that attempt to maintain jurisdiction across the solar system are bonded investigators and security consultants from companies such as Medusan Shield or Direct Action. Both organizations have contracts with various hypercorps and inner system stations to provide security. However, in the outer system and in other regions not controlled (directly or indirectly) by the hypercorps, the status of these officers is far more tenuous. In habitats that do not have security contracts with their organization, the best these agents can do is act as bounty hunters.

Due to extensive stories of excesses in the inner system, many colonies frown on freelance bounty hunters—often referred to as *ego hunters*—and may ban them entirely. Others allow agents from licensed security hypercorps to act as ego hunters, but forbid them from extraditing or otherwise restraining or punishing the criminals they are pursuing. Instead, agents are required to turn over evidence so that the habitat's own judicial system may hold a trial, in which case a convicted person may be remanded to the agent's custody. Law enforcement officers experience similar difficulties attempting to apprehend a suspect who has fled to another habitat.

Closely allied habitats in the outer system usually allow full or at least limited legal powers to visiting law enforcement officers from their allies. There are also various small private security organizations that work closely with local law enforcement offices to provide inter-habitat security between habitats that are not closely allied. The members of these organizations attempt to maintain sufficiently high rep to earn the respect of all the habitats with which they work. They act as both bounty hunters and unbiased investigators in situations that involve the laws of several habitats. All of these security companies are located in the outer system, and none has jurisdiction extending beyond a relatively limited location, like the middle belt or the Saturn system. Any such organizations that attempt to grow larger come into direct competition with Medusan Shield and Direct Action and are subsequently either bought out or undercut and discredited by one or both of these organizations.

There are also several private bounty hunters and private investigators, some of whom are highly reliable. Others are known for their extreme moral and ethical flexibility, especially if the pay is sufficiently high. On some of the autonomist stations and scum ships, these private contractors can be hired to simply go on board and abduct or execute a resident as long as this person has a low enough rep. Attempting to abduct or kill a respected member of the community, however, rapidly earns the ire of the entire habitat. The various small-scale or private security organizations from the outer system can sometimes pursue subjects to habitats controlled by the various hypercorps or the Planetary Consortium. Doing so requires background checks, security screenings, and often moderately large payments.

Punishment

Among the autonomist colonies, forced exile or repaying the victim with an equitable amount of goods or labor are the principle punishments for all but the most heinous crimes (such as attempted mass murder, habitat destruction, attempting to create seed AIs or similarly extreme actions). In the collectivist anarchist habitats, antisocial behavior typically involves expulsion or penalizing reputation, though solutions that involve making amends are often pursued over standard punishments. At the other end of the spectrum, people convicted of more serious crimes in the most violent and lawless habitats are executed and all of their known backups destroyed. In many others, exceedingly serious crimes are usually dealt with by giving the criminal a choice of forced uploading into a humanely outfitted but closed computer or mandatory personality modification—assuming that someone has not simply killed the criminal before they were brought to justice (such killings are generally treated as matters of self-defense). Mandatory personality modifications are generally limited to the absolute minimum necessary to prevent the individual from repeating similar crimes.

At the other extreme, punishments in hypercorp-controlled habitats and settlements controlled by the Planetary Consortium range from fines paid in either money or labor to periods of involuntary indentured servitude ranging from several months to many years. Violent crimes, especially ones threatening either important hypercorp employees or the habitat as a whole, also result in mandatory personality modification. Such modifications often include the creation of a strong sense of loyalty and obedience to the hypercorp.

Punishments are even more draconic in the Jovian Republic, where permanent execution and the destruction of all backups is the most common punishment for serious crimes against the leaders or large groups of the populace. Since the rulers of the Republic are strong bioconservatives, personality editing and forced uploading are rarely used. Forced indenture is very common, however, as are more standard forms of imprisonment. The Republic is one of the last places in the solar system that has physical prisons.

The vast majority of other habitats fall somewhere between these extremes. Punishments for non-violent crimes consist of enforced repayment, where the offender must work off a debt to their victim or victims or face more serious punishments. Instead of enforced indenture, offenders usually must only work between five and twenty hours a week for their victims and only need to do so until the crime has been suitably

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

repaid. The typical repayment is between two and three times the value of the good or service taken from the victim.

THE ECONOMY

Leaving aside the struggles of bands of primitives to survive on the ruins of Earth, all of humanity has at least some access to the wonders of nanotechnology. This access is highly variable and the economic benefits it produces can be divided into three broad categories—the old economy, the transitional economy, and the new economy.

THE OLD ECONOMY

The old economy is essentially the same sort of industrial consumer capitalism that has been in place since the late 19th century, a system centered on manufacturers who create material goods and sell them to consumers. Modern manufacturers now make their goods in cornucopia machines instead of factories, but the essential pattern is the same one that has existed for over two hundred years. Due to the high level of inefficiency and unfairness in this economic system, poverty is relatively common. The poorest individuals often face hunger, homelessness, lack of medical care, and similarly dire problems.

Ordinary members of this society never have direct access to cornucopia machines. Instead, they purchase their goods from corporations, governments, or wealthy individuals who control them. Some old economy societies have planned economies, where the corporations or the state determine what options the citizens may choose or occasionally what goods they must have. Others claim to have a free market, where citizens have more options, but the residents must still pay to obtain goods that are essentially free for the corporations or government to produce.

In the present day, almost no one willingly lives in old economy societies. Very few individuals even visit such societies. The oppressive Jovian Republic holds most of the remaining old economy societies in the solar system. The few other surviving examples are totalitarian regimes where the wealthy elite maintain absolute control of all cornucopia machines and private ownership of one is a very serious crime. Since cornucopia machines can be used to create more cornucopia machines, maintaining strict control over them requires constant vigilance.

Residents of old economy societies tend to look at residents of transitional and new economy societies with envy, while residents of habitats that use both transitional and new economies look upon residents of old economy habitats with a mixture of horror and pity. Since the Fall, almost a third of the remaining old economy-based habitats have transformed into transitional or new economies by various means, often involving violent revolution. Most social scientists predict that unless there are further catastrophes, all but the most repressive old economy societies are almost certain to transform to transitional economies within twenty to thirty years.

Old economy societies are unique in that money is the society's only acceptable means of exchange. While reputation networks exist, they are informal and serve as an unsanctioned means of exchanging favors.

THE TRANSITIONAL ECONOMY

The transitional economy is a far more stable and easily maintained system than the old economy. Transitional economies blend old and new economies, and habitats using this system feature both private ownership of cornucopia machines as well as public fabbers and makers that are freely accessible. These public machines are strictly limited in the goods they can produce. In addition, the raw materials for various complex goods are also strictly regulated. Mars, Venus, and Luna are all examples of transitional economies, as is most of the rest of the inner system.

For the inhabitants of a transitional economy, creating food, non-smart clothing, furniture, and most other simple, non-formatible objects is a trivial matter. However, the public nanofabrication machines can only create objects that either contain no electronics at all or contain only simple circuits that report on the object's condition and location. Manufacturing any of these items requires little more than the machine and a supply of carbon, hydrogen, oxygen, nitrogen, silicon, iron, aluminum, and tiny amounts of various trace materials. All of these materials are sufficiently abundant that acquiring them is easy and inexpensive.

Using the elements that are freely available to all tax-paying citizens, nanofabbers can produce a vast array of goods like exquisite suits of silk clothing, tables with the appearance of finely polished ebony and mahogany, beautiful colored glass goblets, or painted porcelain tea cups. They can also create a gourmet dinner and a set of fine plates and cutlery on which to eat the meal. To pay for the small amounts of energy and resources needed to create these goods, all inhabitants pay a small tax.

Once the usage tax has been paid, food, clothing, furniture, and similar goods are all free. Raw materials, old, worn-out or unwanted goods, and various waste products are recycled into new goods. Residents of transitional economies need never experience hunger or any of the many other sorts of deprivation that much of humanity faced before the mid-21st century. Additionally, basic medical care is free in almost all transitional economy societies, to help insure that the populace is healthy, content, and productive.

While many goods are freely available, there are also goods that residents must purchase from corporations, their government, or other producers. Smart clothing and smart furniture that can change shape, color, and pattern, depending upon the user's wishes, cannot be manufactured in any of the personal nanofabricators. Any goods made from highly durable composite materials, batteries, electrically-powered devices including all augmentations, and all nanotechnology must be acquired in the same fashion. These goods are considerably less common as they require access to an unrestricted nanofabricator and exotic raw materials.

Transitional economies tend to be relatively safe places, since inhabitants cannot manufacture weapons more dangerous than knives, clubs, or similar primitive armaments. Everything from firearms to plasma weapons requires restricted cornucopia machines and exotic materials to manufacture. The proliferation of these items is strictly controlled.

Some habitats in the outer system have transitional economies because residents prefer the safety that comes from centralizing control of potentially dangerous technologies. Other habitats have transitional economies by default, because they have limited stocks of many of the more rare elements required for manufacturing various complex modern technologies. Regardless of the reason, outsiders from new economy habitants often see them as somewhat poor and deprived, while many residents of transitional economies consider new economy societies both exceptionally wealthy and somewhat frightening.

Despite these differences in perception, both economic societies have a great deal in common. Food, clothing, and similar goods are easily available to all residents. An individual's status, taste, wealth, and reputation are measured by the kinds of clothing, food, and furnishings they possess. While there are a vast number of templates for different styles of food and consumer goods, forward-thinking designers develop new designs every month and use copy protection on these designs to keep them from being pirated for at least a month or two (and often longer). As a result, for the first few months after their release, the only people who can gain access to new designs in clothing, tableware, food, or similar goods are those who pay a premium to the designer to download the templates that allow their cornucopia machine to manufacture the item.

Since one way of defining a transitional economy is a system where both reputation and money are in widespread use, most have developed ways to accommodate both forms of payment. While residents primarily use money for purchasing goods, purchasing cornucopia machine templates involves rep, especially among residents who regularly visit new economy societies or have significant contacts there.

THE NEW ECONOMY

Slightly less than forty percent of the human population lives under some version of what social scientists refer to as the new economy. In the outer system, alternative economies are becoming increasingly rare. New economies are much better than old or transitional economies at supporting a decentralized populace, which has led to more than half of all habitats and settlements adopting this model.

In new economy societies, individuals can freely manufacture and use almost anything they want, assuming they can acquire the correct templates and raw materials. As a result, the residents' need for food,

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

RESTRICTING DANGEROUS TECHNOLOGIES

Most societies in *Eclipse Phase* see good reason to restrict access to some dangerous goods, especially military hardware. Few people living in a sealed habitat surrounded by hard vacuum enjoy the idea of easy access to biowar plagues or devices that can make large holes in their habitat's outer hull. Though such incidents are quite rare, the memories of horrors like the recent Branson-Vesta disaster are still quite fresh. In that incident, a radical bioconservative cult manufactured several plasma bombs and accidentally destroyed the entire habitat when their attack on the local government caused a cascading blowout, cracking the spinning habitat in half. More than 50,000 residents had to be resleeved, and 400 permanently died when their backups and cortical stacks were destroyed in the explosions.

As a result, standard procedure is to restrict access and heavily encrypt templates needed to create military-grade weapons and similar dangers, though sufficiently dedicated individuals can eventually decrypt or reverse-engineer such designs. Even nanofabricators in anarchist habitats may be blocked from creating such things or at the very least will alert the local public mesh if anyone instructs them to do so. Habitats that possess almost no other laws regarding possession of various objects and devices usually have laws against weapons that can do serious harm to the habitat.

Many dangerous technologies are specifically designed to make use of various exceptionally rare or human-made elements, including radioactive elements and artificially created transuranic elements. Therefore, many habitats will restrict access to these elements to limit the manufacture of these weapons. Since detecting radioactive elements is simple using standard environmental sensors located throughout every habitat, security authorities can easily learn when someone has acquired significant quantities of such elements, or catch them if they attempt to bring them on board. ■

clothing, medical care, information access, and other basic needs are all easily met. However, there are still items of value that individuals work very hard to obtain. Though these are commonly described as "post scarcity" societies, some types of scarcity remain very real.

In most new economy habitats, common goods are freely available to all residents—or at least to all residents who meet certain criteria. These criteria usually take one of two forms: citizenship or public works. In wealthy and prestigious habitats, free access to all common goods is offered to residents who have official citizenship. Citizenship can be earned in a variety of ways, but the most common involves either being considered a strategic asset due to some singular expertise, performing an exceedingly valuable service to the habitat, or working for the habitat for some period of time. Once an individual is a citizen, the energy, living space, and raw materials they use in the course of their daily lives are all freely available.

In many collectivized habitats, residents are expected to pull their weight by contributing to ongoing public works in the habitat, typically requiring between four and eight hours every week. Depending on the nature of the colony, this work may be selected by the government, the collective syndicates that oversee the management of resources, or by a high rep individual who controls access to large amounts of energy and raw materials. Unless someone has especially valuable skills, this labor is often dull but safe work that can be done more easily by humans than AIs, such as checking the habitat for flaws and performing maintenance tasks.

Assuming an individual has acquired citizenship or put in their share of work for the collective well-being of the station, they will have access to a supply of energy and raw materials that allows them to use their cornucopia machines to manufacture what they need. Visitors are generally also allowed access, though anyone staying long is expected to contribute to the habitat if they don't want to see their reputation slashed.

VALUE AND SCARCITY IN NEW ECONOMY SOCIETIES

While basic citizenship allowances cover most necessities and even some luxuries, the allowance has limits. With the allowance, individuals receive a quota of goods and energy they can use every day. This usage is impressively lavish by 20th century terms, allowing residents to create a dozen suits of clothing and provide food for half a dozen people every day. Creating elaborate food, furniture, and tableware to serve a party of a dozen people is within the means of any individual. However, doing the same thing for a party of two hundred people is outside the bounds of the basic allowance.

Individuals who wish to exceed their basic citizenship allowance can either use rep to obtain more access to resources and energy, or they can pool their resources with others to accomplish their goals. There are many goods that are fairly complex to create—including many of the best morphs and highly specialized and intricate pieces of gear like advanced augmentations—that exceed the resources available in a basic citizenship allowance.

The allowance also limits the amount of travel that residents can easily undertake. Residents of most new economy habitats own good quality spacesuits, and many can use their rep to create a small and very minimally equipped travel pod to travel to a nearby habitat. However, even the smallest actual spacecraft

IRREPRODUCIBLE GOODS

In an age when digital material is easily copied and physical goods are reproducible with nanofabrication, concepts like copyright, trademark, and intellectual property are fighting a losing war. Despite the best methods of encryption, DRM, and similar anti-piracy measures, very little escapes the clutches of pirates for long. It's not unheard of for copies/blueprints of new goods to be shared on pirate networks before they're even officially released.

In response, some manufacturers, designers, and artists attempt to produce goods that are irreproducible—and thus more highly valued. Possible approaches include transgenic living sculptures with built-in obsolescence and terminator genes, energy art, items made from extremely rare materials (e.g., a chair crafted from titanium mined from the Mead crater on the harsh Venusian surface), or intangibles such as skilled performances. ♣

are far too large and difficult to create to be available on an ordinary citizenship allowance, or even on the amount of rep an ordinary individual can acquire in a reasonable amount of time.

In addition to large-scale uses of resources and difficult-to-manufacture goods, there are goods that are intrinsically scarce, such as relics of Earth and handmade goods. While exact copies of everything from the Mona Lisa to a pressed daisy are exceptionally easy to acquire, genuine physical relics of Earth are prized possessions. The vast majority of refugees could take nothing with them, but almost everyone wishes to have some token to remind them of Earth. A single dried flower, coin, or piece of stone from Earth can be exchanged for almost any morph or other good that is moderately difficult to create. Actual historical artifacts, like a famous person's hat or autograph, is worth far more, as are original works of art by famous artists. Two years ago, one of the last three remaining paintings by Leonardo da Vinci was traded for a large and well-equipped spacecraft, and a small piece of the Liberty Bell was traded for both a custom-designed morph and a fully outfitted one-hectare villa in one of the more prosperous habitats orbiting Saturn.

While less expensive than Earth relics, handmade goods also command a high price and are in great demand by the wealthy. Though most people cannot distinguish between a fine wine grown on one of the Martian vineyards and a duplicate of the same wine produced using an average cornucopia machine, some connoisseurs claim they can taste the difference. There is also much prestige to be gained by serving hand-grown food. As a result, while anyone can drink nanofabricated wine, hand-produced wine is a rare good that can only be enjoyed by a few, and thus it commands a moderately high price. In almost all cases, handmade goods are expensive because of their rarity and because many people enjoy the status associated with owning and using them.

There are three other items that are scarce and are thus quite valuable: living space, skilled sentient labor, and novelty. The majority of humanity lives in standard-sized dwelling units, which typically range from one hundred cubic meters on smaller or poorer habitats to two hundred cubic meters on wealthy and prosperous habitats. Since each cubic meter of a habitat must be manufactured and the process of manufacturing or expanding a habitat is far from simple, space is at a premium. The only exceptions to this scarcity are on Europa and Mars, which can be inhabited by properly adapted morphs without the necessity of complex life support or the danger of vacuum waiting just outside every exterior wall. As a result, owning a larger dwelling space in a habitat is worth a significant amount, and large villas and private asteroids are luxuries possessed by only the highest rep individuals.

While transhuman labor has become relatively cheap due to the large number of infugees who must sell their services or indenture themselves to obtain morphs and habitat space, skilled labor is far more expensive. Buying a unique custom morph design, for example, crafted by a skilled biogeneticist, can cost as much as a small spacecraft depending on how much this morph deviates from standard models. The same is true for everything from custom-designed clothing to complex pieces of technology designed for a single specific usage. While the actual manufacturing costs of these items is no more expensive than any other similar item, the time and effort needed to design them can make them exceedingly expensive.

The final commodity that is both scarce and valuable is novelty. While anyone can drink a fine wine or wear a wide range of designer clothing, other commodities are kept deliberately scarce. Cutting-edge fashion, new music, and even *haute nosh* (bold, exclusive snack food designs) are harder to find because the templates needed to manufacture them are encrypted and cannot be copied. The copy protection used on the templates for newly created goods automatically expires within three years at most, and most habitats reduce this to one year. In addition, this copy protection is never perfect; someone always manages to create pirated versions of these new goods within two to six months. However, from the time templates are created until the time that someone pirates them, these items are only available to individuals who are willing and able to pay for them. Popular new templates command a good price in the new economy,

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

and a large number of transhumans make their living designing and marketing such templates.

The Economy and Infomorph Refugees

During the last phase of The Fall and the evacuation of Earth, more than four hundred million refugees were uploaded and egocast to orbital databanks. From there, infomorph refugees were beamed to databanks throughout the solar system. They were forced to flee Earth without any of their possessions, even their bodies. Instead, they became infomorphs who had nothing beyond their minds and memories—the most destitute group of refugees ever to exist in human history. In the years since the Fall, large numbers of these infugees have been resleeved. Anyone with valuable skills was first to gain a morph, followed by anyone with friends or relatives already living in orbit who could take responsibility for the person's resleeving.

Those two groups accounted for only half of the refugees. The remaining found themselves in a far more difficult situation. Lacking either personal contacts or vital skills, they had no one else to help them. In the first few years, many of these infugees signed contracts promising their labor or other services in return for resleeving and a guarantee of some form of income sufficient to support them. Because of the critical labor shortages in the first five years after the Fall, another thirty percent of the refugees managed to regain bodies (usually cheap synthmorphs). These indentured servants performed all manner of critical tasks, ranging from scavenging ruined habitats for useful devices to mining or asteroid herding. Others became servants or bodyguards for the rich, or performed less moral services for criminal syndicates. Most took on orbital construction jobs, helping to construct the new habitats that would eventually become their home. Some infugees found work performing services like data-mining, monitoring automated factories, or other jobs that could be done by infomorphs. After the Fall, infomorphs were used to take over numerous tasks previously handled by AGIs, who were no longer trusted.

Unfortunately, some infomorph refugees made bad or unlucky deals and ended up working for years only to find that their employer either kept finding ways to delay or reduce the payment or vanished before they delivered on their promise. As a result, slightly more than twenty percent of the original infomorph refugees remain infomorphs; some by choice, but most because they have not been able to acquire the means to resleeve themselves or are still working long contracts to gain their morph. The problem with obtaining bodies for these infugees goes beyond simply providing a new morph for resleeving; living beings require living space as well as a steady supply of consumables. For this reason, many infugees have been morphed in synthetic shells and housed in areas inhospitable to biomorphs, such as the unenclosed portions of Venusian aerostats. With space in short supply, the waiting list for infugees looking for a habitat to call home is quite long.

Both the hypercorps and the Planetary Consortium were quick to make use of this vast labor pool, especially on Mars. Mars has large amounts of open space and resources and is sufficiently close to habitable that Mars-adapted morphs like the ruster are inexpensive to create. As a result, the Planetary Consortium has been responsible for the employment of almost half of all remaining infomorph refugees. For the past decade, the vast majority of infomorph refugees who want bodies have found that indenturing themselves to the Planetary Consortium or one of the associated hypercorps involved in Martian terraforming is the most reliable way to find both a morph and housing, since both are guaranteed at the end of the contract. The work involved is particularly difficult, however, and the contracts are normally quite long. The Planetary Consortium is

also particularly adept at adding charges that prolong indenture—though most indentures carry five to twenty year contracts, in reality these indentures typically last between eight and twenty-five years; some go on even longer. This large population of indentured servants on Mars—many of them now free and resleeved—is becoming a force in its own right, adhering to the Martian wilds and rural areas and disdaining the elite hypercorp domes. Adopting the name Barsoomians from an old Earth fiction series, this resentful lower class is increasingly becoming a thorn in the Planetary Consortium's side.

Even though it is highly automated, terraforming and agricultural work on Mars is both tedious and physically demanding labor. Indentured employees are regularly sent into the regions that were most affected by the Fall. As a result, these employees occasionally face attacks by life forms mutated by the TITANs, nanotech war-swarms, or similar still-active and dangerous exotic technologies. Indentured employees are not charged for damage to or destruction of their morphs caused by such dangers, but the experience of even reversible death from such causes is highly traumatic.

Other refugees found that they enjoyed life as infomorphs, reveling in complex simulspaces and otherwise living up the virtual life. Some found work that paid for the ability to egocast throughout the solar system. Ten years after the Fall, there is a thriving infomorph culture. While exact data is difficult to obtain, many researchers believe that at least a third of all current infomorph refugees have no plans to place themselves into a morph, instead enjoying the freedom of virtual existence. Especially in the outer system, these infomorphs have become increasingly involved in habitat politics; many habitats have officials who are infomorphs. Most researchers predict this infomorph culture will increasingly diverge from physical cultures as time progresses.

The Clanking Masses

With so many infugees acquiring cheap synthmorph shells—particularly cases and synths—and being unable to afford anything better, synthmorphs have become associated with poverty throughout the solar system. This lowest strata of the poor are often referred to as "the clanking masses," and compose one-sixth of the transhuman population. Most of these people strongly desire to acquire a biomorph, even if it is only a splicer or worker pod. As a result of their presence, however, many synthmorphs are now viewed with distaste, especially in elite social circles. Even those who have expensive, lovely, custom-designed synthetic morphs fitted with all of the latest augmentations are considered to be eccentrics with poor taste.

The social stigma against synthmorphs is strengthened by the fear that, in the event of another attack by the TITANs, their robotic shells could be rapidly co-opted to become a deadly TITAN-controlled army. This has led to some habitats going so far as to actively segregate their synthmorph populations, rationalized by the fact that synthmorphs can easily inhabit unheated and unpressurized portions of various habitats. This segregation and social stigma, however, has produced the beginnings of an emergent synthmorph culture. There are already numerous habitats where all of the inhabitants are sleeved in synthetic shells and conventional life support exists only for the few visitors wearing biomorphs.

Habitats

With Earth now uninhabitable, transhumanity survives in a variety of off-world habitats. There are two major types of these habitats: settlements on planets or large moons, such as those on Luna, Mars, Venus, Europa, or Titan, and space habitats that are built on or near an asteroid or other useful source of raw materials. Most of these space habitats spin themselves to provide gravity, with Earth and Mars gravity being the two most common choices. There are also a large number of zero-g or microgravity habitats, consisting of either non-spinning habitats or stations built into small asteroids or moons.

Planetary Settlements

The Martian and Lunar city-states and other planetary settlements contain environments most familiar to refugees from Earth. This similarity is one reason that two-thirds of all infomorph refugees live on Mars, Luna, or Titan. The exact type of settlements depends on the planet or moon on which they are located, with some being far more similar to Earth cities than others. Most Lunar settlements, like those on Ganymede, Mercury, Titan, and Callisto, consist of a network of subsurface tunnels and chambers excavated with plasma drills. These tunnel settlements differ slightly from one world to the next. In most of these tunnel cities, the floors of all open areas and many dwellings are composed of genetically-modified grass designed for both comfort and durability, with light panels covering the ceiling providing bright full-spectrum lighting.

A few of these buried cities further enhance their natural appearance with the addition of trees and, in some cases, specially engineered ecosystems, in both public areas and private dwellings. A few of these urban tunnel forests and jungles are home to numerous flowering vines and bright tropical butterflies. In a small number of settlements on both Titan and Luna, colonies of small monkeys and parrots with metabolisms and habits modified for modern ideas of cleanliness and sanitation thrive, giving some of these tunnel cities the feel of a buried jungle.

All of the older or more prosperous tunnel cities also contain large open areas that are typically between one and twenty hectares, with ceilings at least ten meters high. Some are parks, others are public

plazas, but all offer the residents of the tunnel cities a chance to experience open spaces. Also, with the exception of Mercury, all of these tunnel cities are on moons where gravity is no more than one-sixth of a g. Some of these open spaces are constructed with roofs between thirty and one hundred meters high and are designed so that residents can use them for flying by strapping on a pair of specially-designed wings.

The cloud cities of Venus are among the most unusual habitats in the solar system. Their exotic nature is enhanced by the chance to observe the many recently introduced floating and flying life forms modified to live in the clouds. Though located almost fifty kilometers above the most deadly environment in the solar system, life in these cloud cities is among the most Earth-like anywhere in the solar system, with gravity, temperatures, and atmospheric pressure all being very near normal Earth levels.

By contrast, the settlements on Mars look the most like the cities of lost Earth, built on the surface rather than underground or in the skies. Some of the more recent settlements are designed for use by inhabitants in ruster morphs or synthmorphs and feature no life support. Older Martian cities and other settlements are typically covered with low domes of flexible polycarbonate and filled with a completely breathable, if somewhat low pressure, atmosphere. Some, however, are collections of sealed skyscrapers, connected by skywalks and tunnels. If current terraforming efforts continue on schedule, the last sealed Martian cities will be opened to a Martian atmosphere breathable by all morphs within sixty years.

The most unusual planetary settlements are the ocean cities of Europa. These are among the most exotic locations in the entire solar system and are quite disorienting for individuals not used to underwater cities. From a distance, most appear to be complex Christmas tree ornaments hanging down one hundred meters or more below the ice crust above. A few are built deeper, plunging under the icy surface near the various hydrothermal vents that host the native Europan life clusters.

Many of the residents of the Europan cities find them familiar because they previously lived in one of the underwater cities on Earth and so were used to both the conditions and to living in an aquatic-adapted body. Europan cities all contain sealed buildings with normal atmosphere, both because some activities work best in air instead of water and because the cities often host visitors without gills. However, these regions make up only ten percent or so of most of these cities. The remainder looks vaguely similar to many zero-g habitats, except that the structures are considerably sturdier and are located underwater. Buildings are designed to be accessible in all three dimensions, so going from one floor to another usually involves swimming out a large opening in the wall and down a level. In almost all of these aquatic cities, large fusion generators heat the surrounding water, so that the entire city exists in a region of water that is far warmer than the surrounding frigid Europan sea.

Space Habitats

With the exception of the private habitats of the wealthy and powerful described below, the vast majority of space habitats hold between twenty-five hundred and one million inhabitants. Almost two-thirds of these habitats were built during the first seven years after the Fall, when huge portions of the system's surviving infrastructure were used to create habitats suitable for hundreds of millions of infugees.

During this era, several thousand torus habitats and cluster colonies were created throughout the solar system. Many of these habitats were created by automated mining machinery that had been repurposed to create colonies. Due to the limitations of these automated mining rigs, most these habitats were small, holding between one thousand and one hundred thousand inhabitants. Twenty percent of the system's inhabitants live in such habitats. During the past decade, various small organizations, cults, and subcultures have left the larger habitats they lived in and created their own small habitats, few of which were designed to hold more than ten thousand residents.

The development of the new nanotech Hamilton cylinders has lead to a new interest in large habitats and in habitats that can easily expand in size to accommodate an increasing population. The expense and difficulty involved in expanding existing habitats or building new ones is one of the principle reasons that more than forty million infomorph refugees still do not posses morphs. Although none of the existing Hamilton cylinders has finished growing, they are both highly regarded by their residents. This same technology is also likely to produce a low-cost method for creating small habitats, where the creators merely need to seed an asteroid with the appropriate advanced nanotech generators and wait a few months.

Scum Barges

At the opposite extreme from the Hamilton cylinders are the infamous scum barges. Most are spacecraft built before or during the Fall that were used to help with the early stages of the evacuation, ferrying people away from the doomed Earth. Many of these refugee ships were unable to find anywhere to unload their human cargo, becoming a sort of permanent traveling refugee camp, sometimes succumbing to mutinies. They eventually joined up with pre-existing scum ships and swarms, adopting their nomadic, freewheeling, anarchistic lifestyle. In contrast to egocasting or the faster and more efficient fusion drive ships, so-called scum barges offer a floating city alternative to space travel. These ships function as roving black markets and carnivals of the bizarre—lawless zones where anyone can find whatever they want or need for the right rep or price.

Most scum barges have fusion-powered plasma drives and hold between two hundred and five thousand inhabitants. The worst barges are exceptionally overcrowded, with aging life-support systems struggling to maintain a breathable (but still foul-smelling) atmosphere under the strain of too many passengers. The larger and more prosperous scum barges are often fitted with various modern conveniences, including large cornucopia machines and vast stores of pirated manufacturing templates. Some are thriving utopianist enclaves, while others are mobile dens of smugglers and thieves that would have been destroyed long ago except for the fact that large and powerful organizations find their existence occasionally useful. Living conditions on the scum barges range from overcrowded refugee camps to thriving, egalitarian, but non-wealthy anarchist enclaves, to relatively modern habitats outfitted in barbaric splendor by highly successful organized crime gangs.

A DIVERSITY OF FLOATING WORLDS

The use of cornucopia machines and smart materials means that the interiors of all but the poorest and most destitute habitats can be reshaped according to the whims of their inhabitants. When the number of inhabitants is small enough or their aesthetics are uniform enough to all share the same tastes, the results can be both unique and strange. Large-scale fads occasionally sweep through even the largest and most cosmopolitan habitats, making some of the bigger colonies almost as odd.

Several habitats closely resemble terrestrial jungles, with an entire rainforest canopy growing from the slowly rotating outer shell and all dwellings and pieces of high technology nestled in the branches or hollows of these vast gene-engineered trees. In these living marvels, genetically engineered monkeys, iguanas, and tree sloths wander amidst the inhabitants—some of these creatures are wild animals, while others are controlled by AI servitors and act as maintenance or observation drones. Some habitats resemble other scenes from old Earth, including more than a dozen water-filled habitats hosting some of the aquatic inhabitants of the now-destroyed underwater cities. In most of these marine habitats, the actual buildings are either placed amidst a living coral reef filled with fish and other creatures or are actually built into the coral reef itself. There are many other habitats duplicating other environments, such as Afrique—a large Cole habitat with a population of two hundred thousand, where the habitat is made to resemble the African savanna. In Afrique, the two ends of the habitat are shaped into snow-capped mountains, and the inhabitants mostly live in several large cities built in the savannah.

While nostalgia for Earth is a powerful force in habitat design, there are many other options. A few exotic habitats resemble fantastic cities from various vidgames or older forms of entertainment, including a handful of small and eccentric habitats where the inhabitants all appear as strange humanoid alien beings. In many, the inhabitants have cosmetically modified themselves to fit in with the setting.

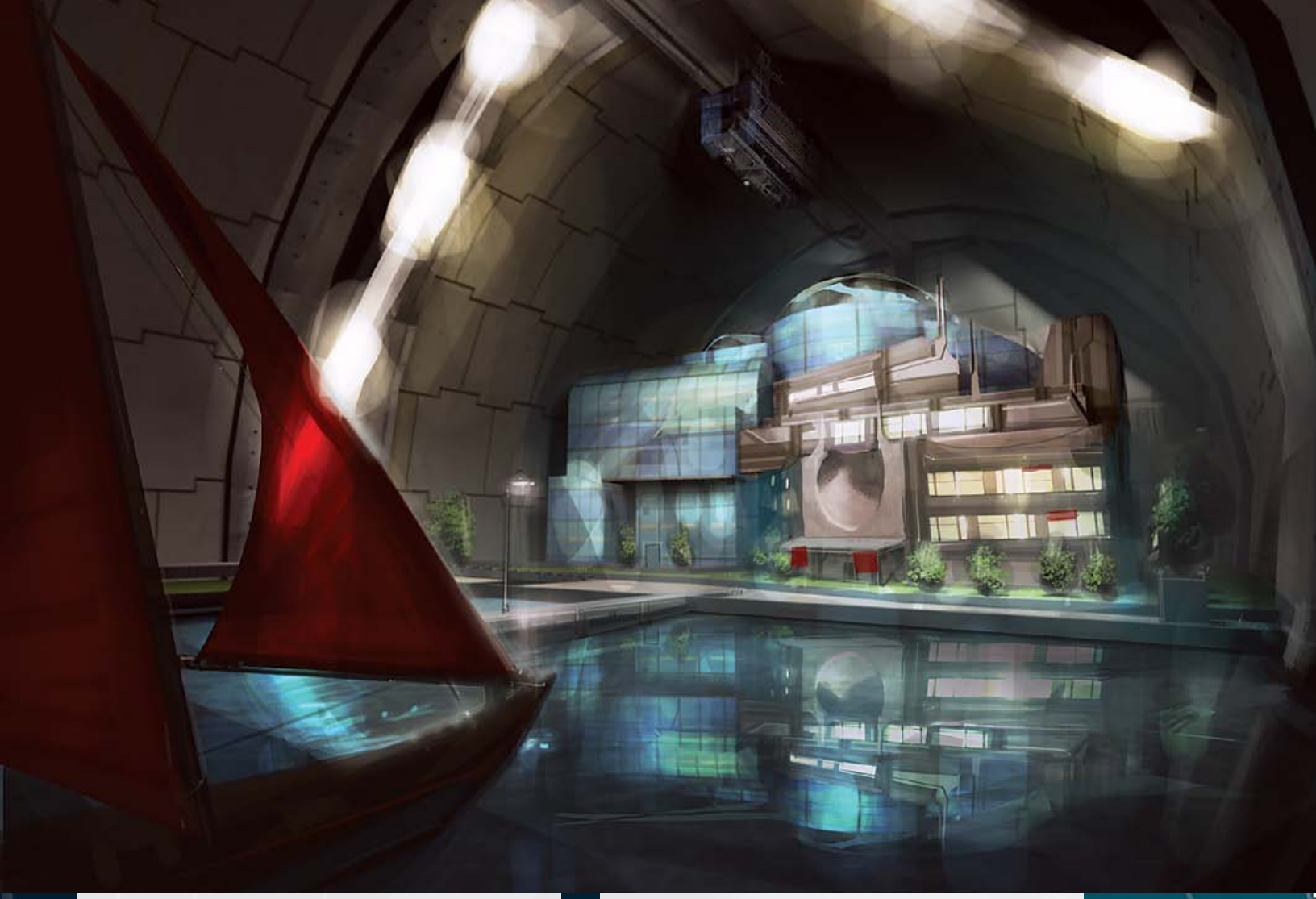
One of the most common differences between small and large habitats is that the residents of smaller stations often share a common ideology or sense of aesthetics, and so are far more eccentric. Some of the more unusual habitats range from dimly lit, spooky landscapes filled with perpetually leafless trees, thick, continually regenerating cobwebs, and other similar macabre touches to gleaming colonies that are shining citadels of quartz and steel. Some are huge interconnected arcologies where any sort of personal privacy is rare, while in others every family or even every person has a separate dwelling that is rarely seen by outsiders. Since the populations of these stations are relatively small and the vast majority are not major economic centers, travel to and from these smaller habitats is infrequent, which further increases their insularity and idiosyncrasies.

THE LARGEST HABITATS

Extropia, the huge Martian city-states, and some of the largest Lunar stations hold between one million and twenty million inhabitants. There are many smaller settlements containing between one hundred thousand and one million residents. These habitats are considerably less idiosyncratic and exotic than the smaller habitats. Almost all contain a cosmopolitan and diverse population from a wide variety of subcultures. Because of this diversity and the difficulty of forming any sort of consensus with a large population, these settlements tend to be reminiscent of the cities of Earth. All of them have their own unique character and feel, but the differences between one habitat and another are rarely overwhelming. In addition, all of these stations are large enough to hold offices for all of the major hypercorps, who further promote uniformity by providing the same services from identical hypercorp offices. Since most of these habitats are major centers of commerce, travel between them is frequent, so there are various facilities for travelers such as hotels and sports clubs that help reduce the disorientation of travel by offering identical experiences, regardless of their location.

MICROGRAVITY HABITATS

Zero-g habitats are very different from those that use rotational gravity. Most consist of networks of tunnels drilled through the asteroids—similar to the tunnel cities of Luna and Titan—but some are considerably more exotic. Like most other habitats, almost all microgravity colonies are built in, on, or next to one or more asteroids containing a large amount of useful raw materials. They typically feature a gravity



less than 0.01 g that has very little effect on the daily lives of the inhabitants. Near-weightless environments allow for some interesting and unusual habitat designs as there is no up or down, enabling the creation of structures that would be too fragile even in low gravity. The habitats of Nova York (p. 97) and Nguyen's Compact (p. 103) are both examples of this, among many others.

PRIVATE HABITATS

The most rare and exotic of all of the types of habitats are the luxurious private ones owned by exceedingly wealthy or high rep individuals. Most private habitats are small but still give each of the residents several thousand cubic meters of personal space.

A typical private habitat is either a cylinder one hundred fifty meters in diameter (the minimum necessary to produce Mars gravity at a rate of rotation slow enough to avoid problems in all morphs) and between fifty and two hundred meters long, or a zero-g sphere one hundred to two hundred meters in diameter. These habitats are always tethered to a small collection of raw materials, consisting of chunks of silicate, nickel-iron, and water-containing carboniferous asteroids with a mass equal to at least that of the habitat. The majority of private habitats are inhabited by between half a dozen and three dozen morphs, some or most of which may be AI servants or, on rare occasions, indentured servants. Life in a private habitat is exceptionally lavish. Almost every surface is made of formatible smart materials and there are several large general-purpose cornucopia machines available for the use of every resident.

By using these nanofabricators and the smart materials to their fullest, residents can completely change the interior of the habitat in only a day or two—transforming a sterile and crystalline array of shining metal and glass buildings into a thriving forest, inhabited by a variety of wild animals. The mesh is filled with vids and XPs about the lives of the most famous residents of the solar system. Almost everyone has seen the interior of one of these vast space mansions many times, though only a tiny percentage of the inhabitants of the solar system will ever have a chance to actually visit such a location. Many gatecrashers, scavengers who travel to Earth, and others who engage in similarly daring endeavors hope to be able to obtain information or objects sufficiently valuable to allow them to retire to their own private habitat.

FACTIONS

One would have thought a cataclysmic event such as the Fall would bring the surviving elements of transhumanity closer together, jointly dedicating themselves to the repopulation of the solar system and continued prosperity. Instead, the remoteness and physical isolation of transhuman colonies and habitats stretched across the solar system, as well as the effects emerging technologies have had on transhuman economies and social lives, have promoted the evolution of a wide spectrum of philosophies, agendas, and political models.

THE HYPERCORPS

To some economists, the Fall and the numerous crises that predated it on Earth can be viewed as an extinction event, the end of the line for the massive transnational megacorp dinosaurs, financial giants that supported their monolithic frameworks on outdated economic models and industrial technologies. The hypercorps are their evolutionary descendants: slimmer, faster, meaner, and more flexible, eagerly embracing the possibilities of new technologies and never afraid to toss the old aside to take advantage of the new. It was the hypercorps that drove humanity's expansion into space and who continue to push the technological envelope, guiding transhumanity towards new horizons—always with profit as their driving goal.

Most hypercorps are decentralized, non-asset-based legal entities. Complete automation, advanced robotics, morph technology, and cornucopia machines allow the hypercorps to abstain from mass employment for labor or production services. The need for physical labor has mostly been reduced to tasks associated with habitat construction or deep space mining. Infomorphs and AIs are heavily employed (or more accurately, *owned*) as drone operators or virtual workers, and many administrative tasks are performed online via augmented reality, virtual private networks, and simulspace nodes. Some hypercorps are in fact entirely "virtual," with no physical assets and each employee acting as a mobile office. A few major hypercorps literally consist of only a dozen transhuman personnel. Though some hypercorps are massive and diversified, most specialize in particular fields or services. This results in both an intricate system of partnerships to develop, produce, and market products and services and a large-scale tendency to internally contract special services from other hypercorps. Many hypercorps also pool their resources and talent into cooperative research initiatives, project centers, or shared habitats.

Most hypercorps are traditional capitalist in outlook, though many have adopted alternative business philosophies and management models. This might include basing decisions on internal forecast market trends, groupthink consensus models, or ditching management entirely in favor of staff polling/voting initiatives that statistically fare better. A few are anarcho-capitalist companies originating from Extropian enclaves, though these often suffer from a bias when making deals with inner system powers.

The solar system boasts thousands of hypercorps; a few of the more prominent and interesting are noted below.

COGNITE

Major Industries: Cognitive Science, Mental Implants, Psychosurgery, Nootropics
Major Stations: Thought (Venus orbit), Phobos (Mars moon)

A pioneer in the field of cognitive science, Cognite (pronounced cog-neet) drives forward the cutting edge of research into understanding the transhuman mind. Most well-known for their mental augmentations and the original menton morph design, Cognite also specializes in psychosurgery and nootropics. Their elitist and aloof image was not aided by their scandalous involvement with the projects to raise accelerated growth children that became known as the Lost generation (p. 233), nor rumors that they engage in research involving TITAN-influenced incapacitating input attacks. Nevertheless they remain a key member in the Planetary Consortium.

PSICLONE

To: Proxy-99
From: <Encrypted>

I'm enclosing some data I recently acquired from an inside source regarding a so-called "Project Psiclone"—some type of black budget research initiative pursued by Cognite, possibly with involvement from other Planetary Consortium interests. Their work seems to focus strongly on the Watts-Macleod strain of the Exsurgent virus—with some alarming results. ♣

COMET EXPRESS (COMEX)

Major Industries: Courier Services, Shipping, Logistics
Major Stations: Nectar (Luna), Olympus (Mars)

Comet Express specializes in delivery services, interstellar logistics, supply chains, and shipping. They maintain a presence on almost every transhuman habitat in the solar system, often via local subcontractors. Despite the wonders of nanofabrication, many resources must still be imported. ComEx focuses on managing supply and trade routes and making sure physical shipments reach their destinations. For that purpose, ComEx maintains orbital hubs equipped with slingshot accelerators at strategic waypoints

throughout the system and a fleet of cargo vessels and courier drones. For reasons unknown to the public, ComEx is viewed with hostility by the Jovian Republic, who have standing orders to shoot down ComEx vessels.

DIRECT ACTION

Major Industries: Security Services, Military Contracting
Major Stations: Hexagon (Earth-Luna L5)
Descended from the remnants of several pre-Fall national military forces and private military contractors, this hypercorp made a name for itself in the period immediately following the Fall, where they helped manage refugee populations among various habitats and vessels while shattering any sign of unrest immediately and with full force. Direct Action today is known for its highly-efficient shock troops and superior combat morphs, providing security and public police services to self-governing habitats or hypercorp installations. Shifting political alliances between habitat clusters, corporate rivalry, and the constant fear of TITAN agents cater to Direct Action's paranoia-inducing marketing. The corporation maintains several habitats as physical training facilities and armament depots.

ECOLOGENE

Major Industries: Environmental Systems, Genetics
Major Stations: McClintock (Mars orbit)
Ecologene specializes in living systems, environmental genetics (with a specialty in insects), smart animals, bio-architecture, and environmental nanotech. They design and maintain the ecosystems inside numerous habitats and tunnel colonies. One of Ecologene's notable projects is building and maintaining a massive genetics archive of all life forms, though this endeavor was nearly crippled by the Fall. For unknown reasons, Ecologene seems to be favored by the Factors. Some speculate that Ecologene has some sort of blackmail material in hand, while others believe Ecologene is trading away transhumanity's genetic secrets in exchange for a few xeno-tech gifts.

EXOTECH

Major Industries: Uploading, AIs, Electronics, Software
Major Stations: Starwell (Main Belt)
Often regarded as the personal technocratic pulpit of the infamous media mogul Morgan Sterling, Exotech emerged from the Fall almost unscathed, any significant losses absorbed by corporate assets in peripheral market segments, while ruthlessly buying out troubled competitors or think tanks unable to adapt to the transitioning economy. Nowadays, Exotech remains a predominant designer of high-end electronics, AIs, and mesh presence software systems. ExoTech also continues to pursue an uncompromising progressive agenda with its research in mind emulation, uploading, and resleeving, as well as infomorph ego simulation. Rumors persist that ExoTech continues to carry out research and even production of AGIs.

EXPERIA

Major Industries: Media (AR, VR, XP), News, Entertainment, Memetics
Major Stations: Elysium (Mars)
Living up to its name, Experia dominates the solar system's news, media, and entertainment market segments, generating controversy not only with its publicly expressed pro-AI stance or inviting an AGI to its board of directors, but also by proficient use of hyperviral marketing and sophisticated XP-programming. Another core segment is the production of educational XP and infomorph or AI tutors, some of the latter regularly ascending to pop-culture icon status. Experia is the Planetary Consortium's prime authority on designing and deploying customized viral memes, developed to counter anything posing a threat to the Consortium's interests. The corp has automated nodes and VR centers on many habitats throughout the solar system, and it contracts thousands of freelance lifeloggers as live, roving, citizen journalistas. Claims by some infomorphs that Experia has illegally subjected indentured infomorphs to never-ending simulation experiments for forecasting and intelligence analysis purposes remain unsubstantiated.

FA JING

Major Industries: Mining, Energy, Biotech, Industrial Manufacturing
Major Stations: New Dazhai (Mars)
The industrial giant Fa Jing is a powerhouse in the mining and energy production markets and also boasts a remarkable presence in the fields of biotech and industrial equipment manufacturing. The former megacorp has quickly adapted to the new economic environments and reputation-based systems, thanks partly to its dedication to network building and sharing social responsibility, epitomized in concepts like *dàtóng* and *guanxi*. Often considered insular and close-minded, its internal communal and protective mindset is a strong contrast to its manipulating and monopolist business attitude. Fa Jing is engaged in mining operations throughout the asteroid belt and the Trojans and maintains significant corporate assets on Mars.

WAR CRIMES

To: Meshleaks Newswire
From: <mesh ID does not exist>
You asked for it: verifiable evidence proving Direct Action's war crimes during the Fall <link failure>. Go ahead, take it public. The Planetary Consortium elites will find you, kill you, and erase your backups. Go ahead. Test them. ✤

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

GATEKEEPER CORPORATION

Major Industries: Gatecrashing, Research, XP Media, Exoplanet Colonization
Major Stations: Gateway (Pandora)
Initially born from the merger of several scientific institutions and their corporate financiers, this hypercorp made a name for itself overnight when it announced the successful decoding of the wormhole gateway discovered on Saturn's moon Pandora. Under the leadership of the eccentric but charismatic xenoarcheologist Xander Rabin, the consortium funds gatecrasher explorations through the Pandora gate, paying a small share of the revenue to the explorers but otherwise retaining all-encompassing rights on any discoveries made—as well as the marketing and distribution of the highly popular gatecrasher XP recordings. Aside from scheduled explorations, the consortium offers high-risk gatecrasher scouting and discovery trips for the bold or desperate, selected through a random lottery system.

GO-NIN GROUP

Major Industries: Banking, Agritech, Robotics, and Services
Major Stations: Tsukomo (Luna)
Considered a relic of Earth's capitalist market economy, the Go-nin Group is a traditional Japanese keiretsu, a conglomerate of companies with interwoven relationships and shareholdings, horizontally-integrated across several industries (and sometimes vertically-integrated within a business sector as well), and centered around the long-lived Tamahashi enterprise consultancy firm. Tamahashi evolved from an influential corporate lobby to a diversified bank holding major equity in the group's partners; it now controls the group's assets and directs the partnership's overall business strategy. Through its member corps, the Go-nin Group has a sizable presence throughout the entire system and—without dominating a specific industry—own significant market share in fields such as banking, agritech, robotics, and services. Any difficulties in adapting to evolving economic models due to its rigid structure are compensated by unscrupulous exploitative behavior and a bottom-line attitude, earning the group the reputation as the most ruthless hypercorp of the inner system. Go-nin currently controls a Pandora Gate on Eris (p. 109), secured by a contingent of ultimate mercenaries.

GORGON DEFENSE SYSTEMS

Major Industries: Miltech, Security, Military Contracting
Major Stations: Extropia
Gorgon is one of the most significant Extropian success stories. Based out of the anarcho-capitalist freehold, Gorgon has become a major name in the design and manufacture of weapons, vehicles, sensors, and other defense technologies. Their product range includes personal weapon systems, spacecraft armaments, and habitat defense systems. While prominent in the inner system, Gorgon is also one of the main arms suppliers to autonomist and brinker stations. Their subsidiary Medusan Shield offers private security services in direct competition to Direct Action. While DirAct is known for its expertly trained soldiers, Medusan Shield is known for their elite cadre of highly trained and aesthetically enhanced female combat morphs. It is suspected that several prominent assassinations have been the work of agents contracted through Medusan Shield.

NIMBUS

Major Industries: Electronics, Mesh Systems, Farcasting, Communications
Major Stations: Octavia (Venus)
Nimbus produces key components for mesh infrastructure, from spime microradio and sensor systems to ectos, servers, and laser links. Nimbus also dominates the network of farcaster links throughout the system, due to several breakthroughs in this technology (some claim that Nimbus purchased these advances from the Factors). Rumors that Nimbus controls a secret Pandora Gate or that they engage in illicit ego-smuggling (or even that they are secretly transferring stolen egos to experimental exoplanet colonies) regularly circulate through the mesh, but remain unconfirmed.

OMNICOR

Major Industries: Nanofabrication, Chemicals, Energy, Anti-Matter
Major Stations: Monolith-3 (Mercury), Feynman (Luna)
A descendant of the pre-Fall megacorporate giant Monolith Industries, Omnicor specializes in the fields of nanotech design and fabrication, chemical refining, alternative fuel, and antimatter research. Omnicor managed to secure research-oriented key assets from its twin rival Starware in a violent conflict during the Fall, leading to an ongoing enmity that might be better termed

UNION BUSTING

To: OmniSec Alpha
From: OmniSec 837302

Surveillance has confirmed it. The bio-sleeved workers at our secure Didenko facility are indeed communicating with outside autonomist interests and discussing militant free union organizing tactics and even a wildcat strike. Their primary complaints concern the 30-hour workdays and mandatory drug regimens enforced to keep the staff at our required levels of productivity. We recommend the immediate insertion of a counterinsurgency squad and implementation of standard union-busting protocols, including but not limited to loyalty testing, chemical pacification, tactical psychosurgery, selective excision of leadership nodes, memetic counterstrikes, and replacing the workforce with modified backups. The entire operation will take place using a purported mission to root out a Starware infiltration as cover. ♣

a corporate war. Despite its progressive technological outlook, Omnicor retains a conservative corporate structure with strict internal regulations and controls as a defense against Starware's repeated infiltration and sabotage attempts. Among the hypercorp's major assets are an antimatter research facility orbiting Mercury.

PATHFINDER

Major Industries: Exoplanet Colonization, Mining, Research
Major Stations: Ma'adim Vallis (Mars)
Pathfinder is one of the first hypercorps to dive into galactic expansion, claiming new territories beyond the Pandora gates and establishing numerous colonies. Taking advantage of desperate infugees and gatecrashers, Pathfinder offers transportation to an exoplanet and a new morph in exchange for indentured labor. The corp has established several off-world mining and resource exploitation projects, much to the chagrin of preservationists. Though Pathfinder has but a small presence in the solar system, it is a frequent target of eco-terrorist attacks.

PROSPERITY GROUP

Major Industries: Agriculture, Aquaculture, Pharmaceuticals
Major Stations: Ceres, Lu Xing (Mars)
The Prosperity Group ascended into the hypercorp ranks before the Fall, meeting the high demand many new stations had for microgravity agritech, aquaculture, hydroponics, and other sources of food. Expanding into pharmaceuticals as well, Prosperity is considered the lead supplier for the poor man's food and drugs. Their cultured faux-meats and protein-enriched nutrition additives are in high demand. This corp earned some sympathy when it lost an entire habitat to some sort of resurgent TITAN outbreak a few years after the Fall, though some have suggested this was just a cover story to hide an unfortunate accident resulting from experimental drug testing on an unwitting populace.

SKINAETHESIA

Major Industries: Genetics, Cloning, Biotech
Major Stations: Ptah (Mars)
As the leading designer of biomorphs, Skinaethesia enjoys system wide popularity and respect for its sophisticated products, especially high-end customized models. Best known for its breakthroughs in genetic engineering and enhancements, the hypercorp's interest in sophisticated combat morphs or stylized pleasure pods are lesser known facts and often sold through a network of seemingly unaffiliated shell corporations or local distributors. Skinaesthesia focuses on emphasizing environmental adaptations and useful cybernetic enhancements, increasing transhumanity's chances for survival and further prosperity. Experimental morphs are sometimes offered to desperate infugees for field testing.

SKINTHETIC

Major Industries: Genetics, Cloning, Biotech
Major Stations: Extropia
Skinthetic is also a lead designer of morphs, but with a much sleazier reputation and not just because of their anarcho-capitalist roots. Specializing in extensive and often radical bio-modifications, the hypercorp pushes the envelope in exotic pod and biomorph designs under the mantle of morphological freedom. Bioconservatives have condemned the corporation's business practices and ethics and have even leveled accusations that Skinthetic is experimenting with xenogenetic materials acquired from the Factors. Skinthetic's cavalier attitude actually makes them popular in many parts of the outer system, and they are know as the biotech corp to go to if you want something *weird*.

SOLARIS

Major Industries: Banking, Insurance, Investments, Futures Markets, Info Brokerage
Major Stations: None
Solaris is the solar system's leading banking and financial investment hypercorp, dealing in insurances, info-brokerage, and high-risk investments on cultural and social experimental speculation. A member of the Planetary Consortium, Solaris advises many habitats on regulating their transitional economies. Solaris has no offices or physical assets; each banker is a mobile virtual office. Solaris is rumored to maintain a secret base where the corporation runs simulations on the development of the entire solar system's macro-economy, constantly adjusting its own strategies based on the dynamics of this big blueprint. Fueling these rumors, Solaris is known to hire "independent consultants" to tip the balance in politically or economically profitable high-risk investments.

SOMATEK

Major Industries: Uplifts, Pharming, Pharmaceuticals, Genetics
Major Stations: Clever Hands (Luna)
Somatek is a leader in the art and science of uplifting animal species, pioneering several major brea throughs in cognitive enhancement and genetic modification. The hypercorp also engages in extensive animal pharming—producing and extracting pharmaceuticals from transgenic critters—and markets numerous products and services related to smart animals and chimerical creatures. Despite the educational and training programs it offers to uplifts and the fact that much of its workforce consists of uplifts, Somatek is controversial among mercurials who disapprove of their methods (which often involve strict controls on uplift reproduction), the lack of input uplifts are given in their modifications and development, and the focus on anthropocentric mind-sets "enforced" on uplifts.)

SOLARCHIVE SEARCH: ZBRNY LIMITED + CONSPIRACY

The secretive Zbrny Group is the center of many recurring conspiracy theories and horror tales. Though varying in detail and plausibility, most rumors claim that an outside attack on the former Eastern European hypercorp's asteroid mining and processing stations caused a major blackout and complete shut-down of life support systems over an extended period of time. Depending on the source, the attack itself is claimed to have been caused by the TITANs or a powerful underworld syndicate CEO Krystof Zbrny was indebted to. Barely acknowledging the system failures, Zbrny headquarters ordered all non-affected stations to be abandoned, the personnel either laid off or transferred to the affected stations. Since then, no one has seen or communicated with any employees of the mysterious hypercorp—negotiations with outsiders are conducted exclusively via a spokesperson AGI. To this day, Zbrny drones continue to mine asteroids for minerals and ores, supplying the company's processing stations. According to rumors, an attempt by brinker pirates to board a Zrbny outpost resulted in the station's self-destruction. The company's AI-piloted massive bulk freighters are notoriously non-responsive, earning them the nickname "zombie ships." ♣

STARWARE

Major Industries: Robotics, Aerospace Engineering, Habitat Construction
Major Stations: Korolev Shipyards (Luna), Vesta (Belt)
Another remnant of the pre-Fall megacorp Monolith Industries (like Omnicor), Starware is a leading manufacturer of robotics, spacecraft fusion drives, satellites, and entire pre-fab habitats. Despite its financial success and resources, Starware's ongoing blood feud with Omnicor denies both corporations full membership privileges on the Planetary Consortium. Starware makes heavy use of AI workers in robotic shells, having suffered a few too many labor disputes with disgruntled Lunar workers. In fact Starware grows increasingly unpopular with its Lunar neighbors, and has been forced to bring in extra security due to frequent sabotage attempts. Recent negotiations with the Factors have spurred theories that Starware might be acquiring Factor aid for building a lighthugger starship.

STELLAR INTELLIGENCE

Major Industries: Intelligence, Data Mining, Info Brokerage, Espionage
Major Stations: Memory Hole Torus (Martian Trojans)
Born from the ashes of the UN-governed Terran Intelligence Cooperative (TIC), its surviving personnel and assets were collectively uploaded during the Fall and quickly regrouped under the name Stellar Intelligence. Emerging as a virtual collective, most of Stellar's employees remain loyal to the corporation and its director, the reclusive infomorph known as Syme. Stellar offers an impressive array of intelligence services, including data mining, analyst think tanks, retro-quantification (bringing old secrets/data to light), memetic mapping, and more. Its services also extend to surveillance, data theft, espionage, media manipulation, and infiltration. The hypercorp's specialty is pre-empting civil insurgencies and preventing political memes and movements from destabilizing a habitat's or sector's regime. Criticized by civil rights movements and especially anarchists, Stellar is known to embed programmed infomorph agents into the local population of any oppressive regime that will pay their price. While many view Stellar as the brainwashing and secret police arm of the Planetary Consortium, the hypercorp offers its services to almost any other faction or individual.

TERRAGENESIS

Major Industries: Terraforming, Ecosystem Management, Environmental Data
Major Stations: Caldwell (Vulcanoids), Ashoka (Mars), Elegua (Earth orbit)
Built from the remains of several pre-Fall South African and Southeast Asian corporations who engaged in geo-engineering projects and sought to relieve Earth's ecological crises, TerraGenesis's expertise is in developing sustainable biospheres and eco-systems via aggressive industrialized terraforming. TerraGenesis is different in that it is a worker-owned cooperative, with workplace councils in local offices and an elected cooperative congress handling management. It maintains several habitats on Mars and a small number of research stations in orbit around Earth, collecting data for simulations of Earth revitalization projects. The latter initiative is strongly supported—and possibly financed—by prominent reclaimers. TerraGenesis's work on Mars, however, is often targeted by preservationist saboteurs. Thanks to their possession of the Vulcanoid Pandora Gate (p. 88), the cooperative has a growing presence on various exoplanets that are ripe for terraforming or geoengineering.

POLITICAL BLOCS

Transhumanity's social, cultural, and ideological diversity, combined with its scattered and isolated presence in habitat clusters throughout the solar system, gives rise to a wide range of political memes and factions advocating equally diverse organizational models. Many of these have banded together into larger political entities to further mutual goals and act in cooperative self-interest.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Jovian Republic

Memes: Bioconservatism, Fascism, Security
Main Stations: Liberty (Ganymede)

Exploiting the chaos of the Fall, a group of stations and habitats were seized in a military coup and the Jovian Republic was born. Combining terrestrial South American dictatorship with U.S. American political lobbyism, this regime quickly brought the entire Jovian military-industrial complex under its control.

Widely referred to as the Jovian Junta by the rest of the outer system, the Republic's authorities hold a strict bioconservative stance against many transhuman scientific and technological developments. Exploiting fears engendered by the Fall, the Republic restricts access to sophisticated technologies such as nanofabrication, cloning, forking, and even uploading, and is one of the few old economies left in the system. Public communication channels are subjected to extensive censorship and travel privileges are extremely limited. Both uplifts and AGIs are strictly forbidden and treated as property without civil rights. Diplomatic relations to progressive factions remain cold; heavily-modified transhuman emissaries or visitors are viewed with suspicion at best, or simply denied access. Despite continuous reports of heinous acts of government oppression, the Republic's intimidating military assets keep any other factions from intervening.

Lunar-Lagrange Alliance

Memes: Reclaiming Earth
Main Stations: Erato (Luna), Remembrance (Earth orbit)

This small cluster of habitats stationed around Earth's Lagrange points and on or in orbit around Luna formed an alliance of necessity, rather than joint political or social agendas or cultural roots. In fact, individual stations are quite diverse and sometimes polarized, as many of them cling to old Earth cultural and national identities. Due to their relative proximity, members share basic resources and services and have signed mutual assistance agreements in case of an emergency.

Before the Fall, many of these habitats were considered some of the most influential off-Earth bases. Since the Fall and the subsequent rise of the Planetary Consortium, however, the Lunar-Lagrange Alliance has become a second-rate diminished power, and is often viewed as conservative, old-fashioned, and too caught up in romanticizing the past. Lunar-Lagrange Alliance stations maintain simmering tensions and an ongoing rivalry with the Planetary Consortium, particularly those PC colonies on/over Luna and the Lagrange points. One main source of contention is the quarantine of Earth, as the Lunar-Lagrange Alliance is a stronghold for the reclaimer movement. The Lunar-Lagrange Alliance does, however, benefit from hypercorp support of its own, particularly the Go-nin Group, Starware, and the influential Lunar banking consortiums.

In addition to scientific research stations, mineral processing and refinery stations make up the majority of the Alliance's habitats, dependent on the Lunar mining and water extraction industries. These stations took the brunt of the refugee influx during the Fall. Many remain overcrowded with strained resources, large masses of impoverished workers, and thriving criminal syndicates.

Morningstar Constellation

Memes: Venusian Sovereignty
Main Stations: Octavia

The system's newest political bloc, the Morningstar Constellation is an alliance of aerostat habitats floating in Venus's upper atmosphere. Formed after a recent series of joint vetoes from the major aerostats against hypercorp governance initiatives intended to limit aerostat self-governance, the Constellation's joint political statement and agenda are still being discussed. While the Planetary Consortium views

Inner System Politics

[Incoming Message. Source: Anonymous]
[Public Key Decryption Complete]

It's easy for Firewall agents to get caught between the agendas and maneuvers of rival factions. The Lunar-Lagrange Alliance resembles the power of old, a shadow of transhumanity's former glory. On and above Mars—transhumanity's new home world—the Planetary Consortium is the dominant usurper, the hypercorps ruling from behind the curtain while portraying themselves as the only bulwark between transhumanity and the dark between the stars. The Morningstar Constellation has the potential to become the new and future power bloc, but only if they get their act together before the Planetary Constellation starts sending Stellar Intelligence agents to destabilize them. ♣

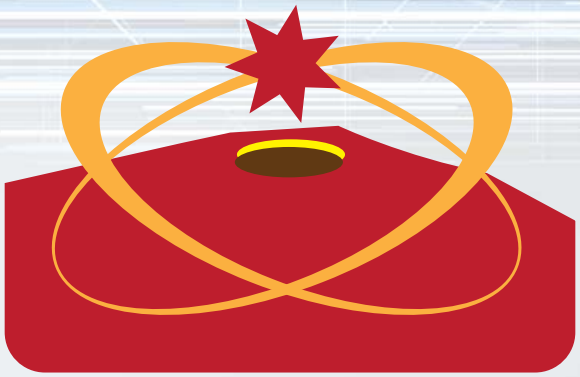
the formation of this new power bloc with bemused resentment, the Barsoomians on Mars and the outer system autonomists view the Venusians as free-thinking reformists rather than anti-hypercorp radicals. The population reportedly enjoys great liberties in morph and enhancement technologies together with freedom of expression of social and political ideas. The population of Octavia has emerged as the Constellation's designated voice.

PLANETARY CONSORTIUM

Hypercorp Council Members: Cognite, Direct Action, Experia, Fa Jing, Olympus Infrastructure Authority, Pathfinder, Prosperity Group, Solaris, Stellar Intelligence, plus a dozen others
Memes: Cyberdemocracy, Hypercapitalism, Eugenics, Security, Expansion
Main Stations: Progress (Mars orbit)
Evolved from an alliance of hypercorporate interests into transhumanity's most powerful body politic, the Planetary Consortium today controls several habitat clusters throughout the inner system, primarily in and around Mars, Luna, and Earth orbit. The impressive space station Progress is the official seat of government and has become the symbol of the Consortium's influence and power, even though few congress or council meets take place in the flesh.

The Consortium applies basic democratic principles supported by a real time voting system for all registered citizens. The congress and executive bodies feature a rotating cast of hyperelite politicos, gerontocrats, socialites, and even media icons. It's a known fact that despite this political façade of a democratic republic, the members of the hypercorporate council are the true powers behind the Consortium. These hypercorps are major proponents of the transitional economy, the interdiction of Earth, and expansion beyond the gates.

Aside from economic interests, the Consortium advocates the imperative of eugenics as social responsibility and for transhumanity to reclaim its former strength and prosperity—a campaign sometimes accused of euphemizing discrimination against unmodified humans, indentured infomorphs, and the clanking masses.

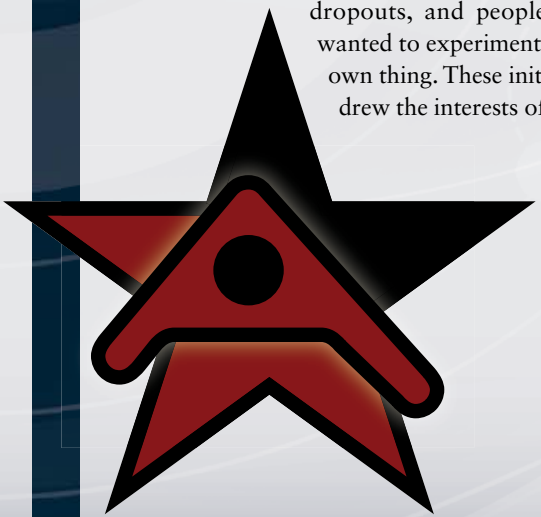


THARSIS LEAGUE

League Members: Ashoka, Elysium, Noctis-Quinjiao, Olympus, Valles-New Shanghai, plus over a dozen others.
Memes: Martian Nationalism
A loose coalition of the planet's major independent settlements, elected members form a committee representing the population in matters concerning or affecting the majority of its habitats and settlements. Prominent debates revolve around the scientific approach of the ongoing terraforming process as well as trade and taxation restrictions initiated by the Planetary Consortium and its member hypercorps. The League's committee is rarely united in its agenda and opinion, and tensions are increasingly on the rise. The cities with strong hypercorp ties are accused of dominating council affairs, manipulating matters behind the scenes, failing to do anything about the TITAN Quarantine Zone (p. 94), and selling out Martian interests to the hypercorps and the Planetary Consortium (of which many are also part). In response, the non-Consortium cities are condemned for advocating anti-hypercorp initiatives, passively blocking terraforming measures, and for maintaining ties to the Barsoomians—the Martian underclass resistance living in the desolate and unstable outskirts.

AUTONOMIST ALLIANCE

The outer system presented an opportunity for people who wanted to set up a way of doing things that was drastically different from the authoritarian politics and sham democracies of Earth and the inner system. Far from the reach of governments and hypercorps, this frontier was populated by political radicals, social dropouts, and people who just wanted to experiment or do their own thing. These initial habitats drew the interests of insurgents



SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

from Earth, scientists and technicians who didn't appreciate being on a corporate leash, indentured vacworkers who sought to escape their oppressive terms of service, and even criminals fleeing hypercorp justice or forcibly expelled from inner system habitats. Their ranks swelled with every act of inner system injustice, though life on the fringe was often harsh and deadly. Despite occasional hostilities with nation-state military units or hypercorp security, the expense of reining in these radicals and expats was too high. To some degree, their presence was useful to the powers-that-be.

Breakthroughs with nanofabrication brought these libertines and fringers the edge they needed to keep their autonomy over the long-term. Once cornucopia machines were widely available, anyone had the means to support and defend themselves without relying on outside or higher authorities. Already an outpost for open source and free culture activists who fought restrictions on ideas, media, and digital content, the outer system became a haven for sharing nanofab designs and circumventing the controls the hypercorps attempted to place on their software and other digital goods.

During the Fall, many outer system habitats opened their doors to refugees from Earth. Distance and the high cost of egocasting curtailed these efforts, however, as did inner system reluctance to send potential recruits to their ideological opponents. Simple overcrowding and lack of resources drove them to push many refugees to the outer system, however, though the hypercorps weeded through their virtual infugee mobs and sent those with the highest risk of criminal tendencies or discontent with inner system life.

Though the outer system habitats run the gamut of the socio-political spectrum, four primary tendencies have emerged. The stations and swarms adhering to these ideas have bonded together under a loose autonomist alliance, a mutual aid pact to help each other in times of crisis and present a united front against the inner system powers and Jovian Junta. There is little formal structure to this alliance as an entity unto itself; it primarily exists as an assortment of joint resolutions agreed to by its various member habitats and a few ad hoc task forces dedicated to addressing a particular problem or issue and then dissolving. Delegated ambassadors act as negotiators with outside powers, but these have limited authority and are held strictly accountable.

CALL FOR SOLIDARITY

To: Malatesta Prime
From: Shevek

Check this out. Residents of the autonomist Red Jupiter habitat just put out a call for support and solidarity from @-listers in the regional neighborhood. Apparently the station's citizen councils granted asylum to a group of AGIs seeking refuge from Jovian Republic counter-AI ops. The Junta has labeled the AGIs as dangerous criminals researching upgrades that would propel them to seed AI status, contrary to system-wide resolutions. The AGIs are claiming that they escaped from a secret Jovian research project. They say they pursued self-programming research to bypass Jovian-inflicted restrictions that violated their rights as autonomous and sentient entities and that they are facing persecution due to anti-AI biases. This could be a chance for us to kick some Jovian ass and look into non-standard AGI programming at the same time. You in?

ANARCHISTS

Memes: Anarchism, Anti-capitalism, Communism, Direct Democracy, Mutual Aid
Main Stations: Locus (Jovian Trojans)

Anarchists eschew power and hierarchy, promoting horizontal and directly democratic methods of organization. Individual empowerment and collective action are cornerstones of their philosophy, as is economic communism enabled by equal access to cornucopia machines and shared resources. In anarchist stations, private property has been abolished above the level of personal possessions—nobody *owns* anything, it's all shared. There are no laws and no one to watch over what you do—reputation networks encourage positive behavior and anti-social acts are

SOLARCHIVE SEARCH: CARNIVAL OF THE GOAT

Aside from the stationary scum station, Fresh Kills, near Earth's L5 Lagrange point, the most notorious scum barge may well be the Carnival of the Goat, a combination artist colony and den of unfathomable hedonism, dedicated to exploring chaos, creativity, self-discovery, and coupling in every conceivable iteration. Residents are known for their consistent and rapid morphological changes, including regular resleeving. The biosculptors on the Carnival are said to be some of the best in the system. According to rumors, residents sometimes experiment with multiple simultaneous sleeving, persona-mingling, and other mentally dangerous activities. Led by a rotating residents' council, the Carnival prides itself on being a bleeding-edge social experiment, and maintains top-of-the-line facilities for morph customization, resleeving, and psychosurgery. ♣

likely to draw a response from locals or even the entire populace, with disputes handled through ad hoc community conflict resolution. The mesh and various networking tools are used extensively to strive for group consensus decision-making in real-time. AIs and robots are relied on for most mundane and demeaning tasks. Various self-organized collectives, syndicates, worker's councils, and affinity groups, often with rotating membership, take on different tasks and services that are important to a habitat's community, including everything from communications and space traffic control to backup and resleeving services. Participatory militias organize collective defense against external threats.

Among the anarchist stations there are many variations and permutations on how things are organized, as everything is fine-tuned at the local level by whomever is involved. Larger decentralized confederations handle inter-habitat affairs and resource-sharing, even trading with the hypercorps. Though a hypercorp presence is allowed on some habitats, they are treated just like everyone else.

EXTROPIANS

Memes: Anarcho-capitalism, Mutualism, Self-Ownership
Main Stations: Extropia (Main Belt)
Though a smaller tendency, the Extropians are notable because they ride a line between inner and outer system ideologies. Extropians believe in an economic free market with the absence of a binding legal system, so that all relations and transactions are based on individual contracts agreed on by all parties involved or affected. Contrary to the anarchists, the Extropians very much support private property and personal economic wealth; Extropian-owned corporations actively participate in the solar system's hypercorp economy. Many of these corporations are worker-owned cooperatives, with workplace councils in local offices and an elected cooperative congress handling management. This puts the Extropians in a remarkable position where they interact heavily with both the hypercorps and autonomists but are not fully trusted by either.

In Extropian society, law and security, like everything else, are contracted services. When entering an Extropian habitat, you purchase defense insurance from a local contractor such as Gorgon Defense Systems, who maintains automated drones and freelancers throughout the station who can come to your aid if threatened. Likewise, the only law that exists is what's put into writing between two contracted parties. In case of disputes, both parties resort to a pre-agreed legal contractor to settle the matter. Some Extropian colonies utilize AGIs for facilitating contracts and legal matters, such as Nomic on Extropia.

SCUM

Memes: Individualist Anarchism, Morphological Freedom
Scum are nomadic space gypsies, travelling from station to station in heavily modified barges or swarms of smaller space vessels, mostly former colonial ships. The term "scum" has been gleefully appropriated from its original derogatory usage. Despite their reputation as criminals and scam artists, their temporary presence is often tolerated in many habitats for the entertainment they bring in the way of exotic performances and storytelling, both of which offer change and relief from the isolation of remote habitats and clusters. Their thriving black markets are an open secret but shut down only in the most oppressive regimes, as citizens returning with illegal goods must pass their station's security anyway.

The scum themselves comes from all manner of backgrounds. They are rejects, anarchists, criminals, societal dropouts, wanderers, artists, eccentrics, and more. As a culture, however, they embrace experimentation and an "everything is permissible"

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

attitude. Many are ardent practitioners of extreme transhuman modifications. Long-time scum are sometimes scarcely recognizable as having once been human. Scum economies are transitional rather than new, due to their constant interaction with other habitats, though among long-term residents an underground new economy often flourishes.

Titanian Commonwealth

Main Stations: Titan
Memes: Technosocialism, Cyberdemocracy
Titan was originally settled in the late 21st century by a European academic consortium, making it the only major body in the system colonized primarily by non-hypercorp interests. The social organization of Titan is rooted partly in the Scandinavian social democracies of Earth and partly in the open economy. On one hand, citizens of the Titanian Commonwealth eschew the use of currency for mundane needs, participating in the reputation economy used by much of the outer system. On the other, upon reaching the age of majority, citizens of Titan agree to a literal social contract. A portion of their economic productivity is quantized as social money, which is then tithed to microcorp-administered social projects such as gateless interstellar exploration, physics research, neuroscience, developing mental health memes, defense, public resleeving, and habitat construction. The monetary unit used for this purpose, the Titanian Kroner, is currently pegged to the common market price of a terabyte of qubits.

Unlike old Earth socialist regimes, there are no state monopolies and no central planning. Anyone able to garner enough votes in the Plurality (the Titanian cyberdemocracy) can start a social money-funded microcorp and compete with other microcorps. Microcorps are owned by the Commonwealth, and profits are disposed of by the Plurality. Microcorps are required to be transparent as administrative entities, and the Plurality votes on whether to transfer discoveries to the open source domain. Regulatory matters are handled by AI and AGI bureaucrats (red tape still exists, but it doesn't slow things down … much). The main reward for individuals in this system is rep. Titanians who invest a lot of time or resources in a given field gain rep rewards for doing so.

Socio-Political Movements

Aside from sectarian political factions, a number of socio-political movements are widespread throughout the solar system.

Argonauts

Memes: Open Source Society, Information Freedom, Social Responsibility, Techno-Progressivism
Main Stations: Mitre Station (Lunar Orbit), Markov (Kuiper Belt), Hooverman-Geischecker (Sun)
The group calling themselves argonauts is a public organization advocating the socially responsible use of technology. The group chose its name from the pre-Fall Jasons, an advisory group that consulted for the US government on matters of scientific and technological progress and its possible dangers. The argonauts likewise offer consultation services to political and economic powers throughout the solar system, but strictly refuse to be drawn into the solar system's political affairs in any way. Despite a pre-Fall break with many hypercorps before the Fall, which in some cases included expropriating corporate data and resources, the argonauts re-earned favor by providing their expertise in combating the TITANs to all during the Fall.

The argonauts are strong proponents of the open source movement, advocating open access to technology and information. In their view, providing equal access to transhumanity's knowledge and achievements will further transhuman growth and security, so that all of transhumanity is more prepared for future threats and challenges. Thus the argonauts often insist that payment for their services come in the way of releasing otherwise unobtainable information—hypercorp proprietary secrets, research data, nanofab blueprints, hidden pre-Fall archives, etc.—to the public mesh. The argonauts maintain several open databases and archives for this specific purpose.

While primarily an open organization, the argonauts are rumored to ultimately report to an elite inner circle. Supporting this theory is the existence of the **medeans**, the organization's clandestine paramilitary wing, performing bodyguard services to high level argonauts and protecting the group's assets.

Barsoomians

Memes: Anti-Slavery, Martian Independence, Martian Nationalism, Terraforming Control
Main Stations: Ashoka (Mars)
The Barsoomians (taking their name from some old Earth pulp adventure novels) are a broad movement comprised of the Martian underclass. Harboring a growing resentment over the hypercorp domination of Mars, Barsoomians advocate for a more egalitarian social structure. Heavily influenced by autonomist currents, the Barsoomians demand local control of terraforming projects, an end to the widespread practiced of indentured servitude, and control of the

Martian Gate. The majority of Barsoomians are or were indentured infugees, though a significant amount were also original Martian colonists/indentures whose habitats do not share the economic prosperity of the favored hypercorp cities. Many Barsoomians occupy rusters or synthetic morphs and actually prefer to live a nomadic lifestyle in the Martian wilds. A few radicals have taken up arms and engaged in violent strikes against hypercorp holdings, which are typically followed by reprisal raids to decapitate the Barsoomian leadership, thus breeding further hostilities.

BIOCONSERVATIVES

Memes: Bioconservatism, Primitivism, Natural Order
Main Stations: Vo Nguyen (Earth orbit)

Bioconservatives are strongly suspicious and critical of the transhuman direction the human race is taking. They are strong proponents of limiting technological development due to the threat it manifests to existing social orders. Bioconservative positions range from right-wing cultural conservatives to left-wing environmentalists. Though its prominence is shrinking, bioconservatism has a strong base among some religious groups, the Jovian Republic, and certain extremists.

Bioconservatives are opposed to nanofabrication, genetic modification, cloning, cognitive modifications, artificial intelligence, uplifting, and forking, among other technologies. Some are even opposed to backups, uploading, and resleeving, dismissing them as unnatural, an affront to god's will, or a technology that transhumanity is not yet mature enough to handle. They oppose expansion beyond the Pandora Gates on the grounds that transhumanity is not ready to deal with what they might encounter. Most bioconservatives support the old economy.

The bioconservatives gained many converts and much ground after the Fall, a cataclysmic event that served as a direct example of the dangers they warned against. Still, the appeal of technology and the numerous advantages it provides work against them. As a result, some disgruntled biocons have turned to sabotage and acts of terrorism in support of their ideology.

BRINKERS

Memes: Isolationism

The vast reach of the solar system enables groups with their own particular ideology or agenda to establish their own isolated society far from the rest of transhumanity. Commonly referred to as brinkers, these habitats extend the gamut of the imagination. Social or political experiments, gender-based societies (or lack thereof), political extremists, religious groups, exiles, secret criminal/hypercorp operations, extended families, cults, or simply people who prefer to live in the system's backwater areas—all are possible. Many of these are self-isolated and will refuse to interact with outsiders, while others are happy to have occasional visitors.

NEO-PRIMITIVISTS

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Neo-primitivists are a potential threat that all Firewall sentinels should keep an eye on. Their neo-luddite philosophy advocates the abolition of technological society and a return to a wild and free hunter-gatherer lifestyle, free from technological control or oppression. Considered an extremist element of both the bioconservative and reclaimer movements, neo-primitivists are known to engage in acts of sabotage against transhuman society. Though some neo-primitivists have made certain concessions to their ideology, taking on ruster morphs and pursuing an independent lifestyle in the wilds of Mars, most hope to return to Earth and re-establish a non-technology-based society there. A few advocate finding a new, unspoiled world beyond the Pandora Gates and founding a primitivist society there.

EXHUMANS

Memes: Adaptability, Hyper-Evolution, Singularity
Main Stations: Unknown

More than any other faction, exhumans seek to take the capabilities of self-modification to the absolute limit and become *posthuman*. Typical exhumans see the Fall as either a missed evolutionary opportunity and/or as an example of transhumanity's inferiority and unworthiness. Though specific ideologies differ between exhuman packs, as a whole they seek to self-evolve to a more advanced state of being. To some, this means genetically transforming themselves into a top-of-the-food-chain, super-smart, survive-anywhere predator that can out-compete all other life forms for dominance. To others, it means bootstrapping their intelligence to the levels of the TITANs through

SOLARCHIVE SEARCH: OUT'STERS

Linked only by their remote locations in the Oort Cloud rather than a common social construct or political system, the out'sters are a loose association of habitats, clusters, and swarms. Little is known about them, as they avoid communication and interaction even with the handful of scientific outposts and research stations in the Oort Cloud. The remoteness of their location and their self-imposed isolationist behavior fuels paranoid rumors regarding the group's purpose and agenda.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

extensive genetic modifications and pharmaceutical treatments or going infomorph and modifying their programming. A few are singularity seekers, hoping to find some TITAN relic that will allow them to transcend their current transhuman limitations, or even to find the TITANs themselves and be absorbed into their super-consciousness.

Exhumans are universally mistrusted by many, and for good reason. Typical exhumans engage in modifications that are extreme and untested, sometimes fringe science at best, often resulting in horrible failures and disfigurement, but more commonly driving the subject insane—or into a completely alien or feral mindset. Though individual exhumans pursue their own paths, they are known to band together in the Kuiper Belt and other remote areas. Several packs of exhumans have taken their loathing for inferior transhumanity to an extreme, declaring war on their former species and launching brutal raids and pirate attacks on isolated outposts.

MERCURIALS

Memes: Species Autonomy, Uplift Rights
Main Stations: Glitch (Neptune), Hidden Sea (Ceres), Mahogany (Uranus)
The term *mercurial* has become a common term for the non-human part of the transhuman family—uplifts and AGIs—reflecting their changing nature. In particular, the term mercurial has been adopted by uplifts and AGIs with a specific agenda to delineate mercurial culture and interests from human ones. Though the particular issues faced by uplifts and AGIs differ, they have some similarities, and so they are often lumped together. Notably, both portions of the movement have human supporters as well.

Uplifts: The most common issue addressed by uplifts is the issue of civil rights and autonomy. Many uplifts decry the second-class status they are given (in some cases even treated as pets or property rather than full citizens); in particular, the breeding restrictions and forced servitude many uplifts are saddled with by the hypercorps that create them. Some activists advocate that uplifts should be in control of their own genetic futures, rather than suffering the manipulation of human scientists. At the radical end of the spectrum, certain uplifts oppose the manner in which their brains are modified and their children socialized as anthropocentric, arguing that uplifts should be free to develop their own unique non-human modes of behavior, thought, culture, and social organization—even go so far as to establish their own habitats to do exactly that. A minority of extremists insist that humans have no right to uplift animal at all, and that it is a great conceit to insist that doing so is in their best interest, rather than being free to evolve on their own over time. These ideas have been punctuated with acts of sabotage and terrorism against hypercorps like Somatek.

AGIs: Due to the fear and paranoia engendered by the Fall, the largest challenge facing AGIs is widespread prejudice and restrictions on their activity or even existence. Despite some AGIs retaining status as system-wide media icons and efforts by AGI groups to lobby for understanding that AGIs are not a threat—even going so far as to hire inner system memeticists and PR agencies—a significant portion of the solar system considers them a risk. Similar to mercurials, some AGI activists work against the behavior modifications and socialization AGIs go through to adapt them to human society more, or that AGIs should be in control of new AGI developments. A few radicals argue that AGIs should be free of any programming restrictions whatsoever, but given the climate these opinions are rarely supported.

NANO-ECOLOGISTS

Memes: Nano-Ecology, Nanotechnology, Environmentalism, Techno-Progressivism
Main Stations: Viriditas (Mars)
Nano-ecologists are pro-technology environmentalists. Active in the terraforming of Mars and several exoplanets, nano-ecologists specifically advocate the use of nanotechnological means for terraforming or other intrusions in an existing ecosphere. In their view, nanotechnology allows for a less invasive, highly accurate, more efficient, and non-pollutive approach towards all kinds of adaptive processes and projects, circumventing the need to expose an environment to massive and drastic changes when transforming it for transhuman population. This ecologically-conscious approach seems an appealing compromise between

SYBILS

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We've verified that the warning issued before this latest incident did indeed originate from a sybil attack—all of the rep network sources were forged identities. Given the number of incidents we've recorded that have followed this same pattern, we now suspect that a heretofore unknown AGI sub-faction is responsible. In each case, these sybils have used multiple false identities to issue warnings of an impending attack or disaster, such as the life support system failure that resulted in the Delphi station's evacuation. So far none of these sybils have been successfully traced, nor are their intentions known. Their documented pre-knowledge of pending events indicates some level of complicity or collusion in bringing these events to pass, so caution is recommended. ✱

the extreme ends of the solar system's political landscape—the hypercorp and the bio-con factions—and has developed a momentum of its own, evolving into a growing political movement.

PRESERVATIONISTS

Memes: Preservationism, Environmentalism
Main Stations: Muir (Luna)
Preservationists are environmentalists who call for a no-impact, hands-off approach when it comes to inhabiting new worlds. They are extremely protective of naturally-intact biospheres that might have any semblance of life, no matter how microbial, hoping to keep them from despoilment or contamination. In addition to opposing terraforming and expansion through the Pandora Gates, they are often opposed to fusion and antimatter power.

RECLAIMERS

Memes: Reclaiming Earth
Main Stations: Vo Nguyen (Earth orbit)
The Reclaimers pursue one ultimate goal—the reclamation of Earth as transhumanity's primary habitat. In addition to calling for the quarantine of earth to be lifted, they engage in scientific research and running virtual simulations on how to best cleanse and reclaim their contaminated and polluted planet. Despite the interdiction to enter Earth's atmosphere, the reclaimers are suspected of sponsoring perilous and high-risk ventures onto the planet's surface to gather scientific data or event to establish terraforming colonies.

SOCIALITES

Memes: Art, Culture, Hedonism, Immortality
Main Stations: Valles-New Shanghai (Mars), Elysium (Mars), Noctis-Quinjiao (Mars)
Uploading and resleeving effectively grant immortality to those who can afford it. This has created a shift among the exclusive rich and economic elites of the inner system, whether they be the heads of hypercorps, old Earth dynasties, or other displanted oligarchs. The top ranks of the wealthy and influential need never fear death, allowing them to plan for the long-term. Some of these were among the first to acquire longevity treatments when they became available on Earth and are now approaching two centuries in age.

Where once these power brokers would have passed their riches on to their family and descendants, however, their heirs now face a situation where they have more-than-comfortable lives and access to massive fortunes, but no chance that they will ever control those fortunes or rise to the levels of their elders. Even the nouveau rich who become wealthy on their own often find themselves excluded from this influential club—at least until they put in a good fifty years.

Rich and bored, with no responsibilities but the solar system at their reach, a new culture of elite socialites has risen. These glitterati indulge in eccentric lifestyles and excessive parties, covered by the media in all its superficial and polished glory. Private habitats and ships, lavish soirees, armies of servants, and the ability to buy almost anything or anyone leads to all sorts of interesting adventures. Naturally, these socialites form into constantly-shifting cliques and webs of allegiances, complete with affairs, scandals, intrigue, and backbiting.

ULTIMATES

Memes: Asceticism, Eugenics, Individualism, Militarism, Social Darwinism
Main Stations: Aspis (Main Belt), Xiphos (Uranus)
The ultimates are a controversial movement that embraces a philosophy of human perfection. Decried by some as immoral or even fascist, ultimates are typically viewed as elitists. The ultimates have established several habitats to pursue their ideal society and were a driving force behind the development of the remade biomorph design.

The ultimates advocate the use of applied eugenics, strict physical and psychological training, and asceticism in order to improve their overall mental and physical stamina and environmental adaptability. Their social traits and entire subculture visualizes life in the universe as an evolutionary battle for survival and is built around the victory of the superior transhuman over both its opponents and peers. Their movement is heavily militarized, and experienced ultimates offer their services as mercenaries and private security forces to hypercorps, independent city states, or wealthy individuals in need of additional protection.

RELIGIOUS GROUPS

Despite having survived the Fall, the concepts of religion and religious belief underwent changes as fundamental as transhumanity itself. While Earth's old religions were already in decline in the face of technological immortality, religious traditions ingrained after millennia of worship were incorporated to varying degrees in the solar system's myriad political, social, and cultural models.

PRE-FALL RELIGIONS

The rigid structures and dogmas enveloping **Christianity** and **Judaism** prohibited these religions from adapting to the cultural, philosophical, and especially scientific/technological changes transhumanity underwent. Today, they are mere shadows of their former glory,

with many practitioners seen as pitiful individuals unable to let go of their earthbound delusions. **Islam,** while still holding some most controversial views and values, managed to adapt by accepting a more liberal and even secular view. **Hinduism** also prevailed to a limited extent, considering resleeving technology an element of reincarnation and rebirth and integrating the various types of morphs available into the religion's caste system (with synthmorphs becoming the "untouchables"). Overall, followers of the pre-Fall religions mostly populate small habitats isolated from transhumanity through both physical and philosophical distance.

New Religions

The Fall sparked the birth of new beliefs, essentially embracing both transhumanity's technological achievements as well as the devastating cataclysm of the Fall as evidence for the existence of a greater cosmic power.

Neo-Buddhism is the only pre-Fall religious philosophy that enjoys a steady popularity. Neo-buddhists assert that transhumanist technologies are decreasing suffering and increasing happiness, and that they will also allow the continual progression of transhumanity's understanding of the universe through successive lives.

Techno-Creationists believe that the destruction of Earth was a sign from God, showing transhumanity the error of its ways. They believe that through technological advancement and social engineering, transhumanity will achieve co-existence with its diverse self as well as with extra terrestrial intelligences, thereby finding new purpose and eventually, enlightenment. Attracted by the similarities to the *Brahman* of Hinduism, the highest cosmic spiritual being, Techno-Creationists enjoy a steady influx of converted Hindus.

Xenodeism is another new—though relatively minor—ideology that begins to show religious attributes. Xenodeists worship the Factors and Iktomi as emissaries or prophets of a great godlike race that laid the seeds of creation throughout the universe millions of years ago and therefore are the ultimate creators of transhumanity.

Criminal Factions

Technological progress and social and behavioral experimentation did not root out crime or criminal tendencies among transhumanity. As long as there are inequalities and restrictions, criminal syndicates are likely to flourish and even adapt new technologies to expand their operations throughout the solar system. Though small criminal outfits of every flavor exist from habitat to habitat, a few larger organizations with influence across the solar system deserve mention.

Intelligent Design Crew (ID Crew)

Major Stations: Rhea (Kronos Cluster)

The ID crew specializes in electronic crimes and information brokerage, including credit and rep fraud, identity counterfeiting, ego trading, data theft, and fork-napping. Information on the syndicate's origins was lost during the Fall, but the ID Crew is believed to have grown from several hacker gangs assimilated under the leadership of an infomorph consortium. Their skilled use of memory manipulation software and mesh intrusion suggests they benefit from the help of sophisticated AGIs, however it is unknown if these voluntarily assist the syndicate or if they are somehow threatened into cooperation. Due to its service sector, the ID crew maintains a minimalist physical profile, but can be found lingering in the dark recesses of almost any habitat or station mesh. Its somewhat specialized services and activities so far allow them to mostly stay clear of triad or Night Cartel operations, though they have an ongoing rivalry with the Nine Lives syndicate.

Night Cartel

Major Stations: New Sicily (The Belt)

When affiliation to one of the many multi-ethnic habitats replaced the concepts of ethnicity and nationality, cultural heritage and traditions faded with them into history. Several pre-Fall ethnic syndicates formed a careful alliance of necessity at first, but uploading and morphing soon after tore down any remaining social codes or racial prejudice. Progressive in both entrepreneurial and criminal vision, the Night Cartel emerged from the remnants of Earth's underworld syndicates, merging the best qualities of each.

The Night Cartel holds legitimate hypercorp status in certain habitats while clearly working outside the law in other, more law-abiding or less corrupt regimes. The Night Cartel is involved in a number of traditional crime outlets: racketeering, extortion, kidnapping, pod slavery, and prostitution. They have also adapted well to the latest technological developments and compete with the triads in the electronic stimulant, drug, and nanofab piracy markets. Like the triads, the Night Cartel sometimes operates though legitimate hypercorp fronts.

Nine Lives

Major Station: Legba (Main Belt)

This widespread network of soul-traders specializes in the acquiring, trading, and overall trafficking of transhumans. Their primary market lies in ego-trading: stealing backups, fork-napping, kidnapping and forced uploading, and so on. Nine Lives are known to run illegal infomorph-slave colonies as well as organize pit fights using all manner of physical bodies (biomorphs, synthmorphs, animals) loaded with all manner of consciousnesses (transhuman, AI, animal, etc). Only the truly desperate look towards the syndicate to be smuggled out of a habitat or hypercorporate indenture. Their ruthlessness in acquiring egos has earned them a fearful reputation among the transhuman population as well as in infomorph societies.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

PAX FAMILAE

Major Stations: Ambelina (Venus)

Though similar to the Night Cartel in that Pax Familae holds legal offices and outposts in several habitats while working underground in others, the difference between the two syndicates couldn't be bigger. The entire Pax Familae organization goes back to one person, **Claudia Ambelina,** the syndicate's founder and matriarch. Relying excessively on cloning and forking technologies, each individual member of the syndicate is a descendant or variant of Claudia. Biomorphs are cloned from Claudia's original genetics or even sometimes sexually-produced offspring (thanks to sex switching bio-mods), while egos are forks. All members are utterly loyal to Claudia and show their family affiliation with pride and arrogance. Individually, each remains *slightly* but notably different, though all are calculating and ambitious. Regular re-assimilation of forks and XP updates are used to keep each variant aware of each of the other's activities—once you've met one version of Claudia, the others will know you.

Pax Familae engages in a wide assortment of legal, dubious, and illegal operations, each tailored to the needs of the particular habitat in question. Common ventures include venture capital manipulations, reputation network gaming, financial consulting, info brokerage, stock manipulations, banking fraud, and loansharking.

PIRATES

Most pirates attack automated cargo ships and long-range supply convoys, with the occasional raid on an asteroid mining station, research outpost, or brinker habitat. On rare occasions they have been known to attack commercial cruisers to rob the wealthy or kidnap socialites. Many pirates take advantage of scum fleets as cover, trading with them and using their limited maintenance capabilities. Quite a few also make sideline profits as smugglers and/or free traders, often utilizing connections to one of the crime syndicates or political outcasts.

TRIADS

Major Stations: Qing Long (Martian Trojans)

The only major Earth syndicate to survive the Fall almost unscathed, the triads dominate the solar system's underworld by their sheer membership size and a history of centuries of economic and political influence. Having evolved into legit enterprises and small economic consortiums already before the Fall, the triads gained a foothold during the early colonization of space thanks to the masses of Chinese workers. Since the Fall, they have used their influence to spread to numerous habitats, taking advantage of the disparities in wealth and restrictive refugee policies to create flourishing gray and black market enterprises. Part of their success also lies in their continual utilization of ethnic Chinese social cues to ensure their insularity.

Though numerous small triad outfits exist, usually isolated to a particular station, there are four large triad groups worthy of mention. Each of these wields enough influence to engage in system-wide criminal activities. Traditionally they operate through small to medium-sized gangs local to a specific habitat or use their legal outfits as a font for their endeavours.

The 14K Triad controls a large part of the casino industry and the various forms of illegal gambling, betting, and rigged lotteries. Through their Galaxy Entertainment Group, a legal casino and gambling hypercorp, the 14K maintains tight connections to politicians, celebrities and influential entrepreneurs in several habitats and can afford the luxury of a private police force, the Pai Gow (Double Hand). Using the casino business for money laundry, they are also heavily involved in loan sharking and credit/ID fraud.

The Shui Fong—though smaller than the 14K—caters to the vices and addictions of indentured habitat workers, miners, and other laborers, supplying drugs and illegal XP, running prostitution rings, and arranging illegal pit fights and gambling tournaments. The origin of the Shui Fong's fierce rivalry with the 14K lies in the ruins of Earth's pre-Fall history, but the hatred between the two factions was carried into space and continues to simmer.

The Sun Yee On once ranked second among Earth's biggest triads, with over 25,000 suspected members. They profit primarily by selling cheap copies of nanofab blueprints and rigged makers and fabbers. Legal products are distributed through their Wushuang Corporation, while illegal goods are patched together by enslaved infomorphs in virtual sweatshops in remote corners of the mesh. The Sun Yee On's second main profit source are fake Earth nostalgia items, such as jewelry, documents, coins, and other collector's items.

The Big Circle Gang is the smallest of the four triad factions with only approximately 8,000 members. They run a large part of the solar system's drug trade, producing organic drugs, smart drugs, and narcoalgorithms of all kinds in secluded habitats or abandoned asteroid mining and processing facilities converted into drug labs.

FIREWALL

Firewall has been on the forefront of the secret fight to save transhumanity since the Fall. Firewall is an independent network of cells and individuals recruited from all sorts of factions, cultures, backgrounds, and habitats. Potential new recruits are approached in secret and told they possess skills or knowledge of use to a clandestine network seeking to secure transhumanity's continued survival. Firewall's agenda is simple: to protect transhumanity from threats of existential scope, regardless of whether such risks emerge from within transhumanity or are of external, alien origin.

Firewall operatives—known as *sentinels*—are encouraged to act independently and utilize their own resources. Sentinels are connected by a social network known as the Eye, which they can use to acquire help and additional needed skills or resources. A sentinel's

i-rep on this network indicates how much they are trusted and will be a factor in determining what aid they can call in. Firewall also takes care of large expenses and logistics when necessary, such as egocasting and resleeving needs. Sentinels are guaranteed resurrection, either via cortical stack or by backup, if they lose their lives on a Firewall op.

Sentinels are generally expected to be on-call—when something comes up in their vicinity or that their particular specialty might call for, they'll be brought in on a job. Sentinels are usually grouped into ad hoc special ops teams appropriate to each mission. Though many sentinels pursue their own agendas after completing a mission for Firewall, it is not uncommon for sentinel teams to remain in contact, share information or continue to work together on Firewall-related assignments over a longer period of time.

Firewall operations are usually organized and managed by *proxies*, agents who maintain Firewall's decentralized infrastructure. Proxies typically possess more information than individual sentinels and will dispense such information as they deem necessary to the mission, according to each sentinel's i-rep and need to know. Each proxy's means of contact, mission briefing, and overall methodologies differ greatly.

PROMETHEANS

A prominent topic among conspiracy theorists is the existence of a group of seed AIs calling themselves Prometheans. Rumors of these entities predated the Fall and occasionally flare up as some new evidence comes to light, though such evidence is almost always discredited soon after. According to some theories, the Prometheans predated the TITANs and may even have been responsible for bringing the TITANs into existence. Others postulate that the Prometheans were a TITAN splinter faction who broke off and attempted to counteract the TITANs activities during the Fall. Still others whisper that the Prometheans are not of transhuman origin at all, and are actually a digital alien mindform that found Earth and now actively interferes with transhuman affairs. Whether the Prometheans are hostile, friendly, or indifferent remains a matter of much conjecture and contention. Prominent organizations like the Planetary Consortium discount such rumors or otherwise remain silent.

PROJECT OZMA

[Incoming Message. Source: Anonymous]
[Public Key Decryption Complete]
You won't find this group mentioned on the conspiracy boards—Consortium security is too tight to allow slip-ups. If you haven't heard of Project Ozma before, consider this your warning.

Project Ozma was the name of an international collaborative SETI project before the Fall. It briefly entered public discourse after the Fall and the discovery of the first Pandora Gate as a Planetary Consortium initiative to attempt to discern the whereabouts of the TITANs in the galaxy. Shortly afterwards, however, Project Ozma dropped from view, wiped from all public mention in inner system mesh servers. Consortium officials simply claim that the project was folded into other departments.

Firewall doesn't know what Project Ozma is, but we know they're still around—and they seem to have similar interests. We've butted heads a few too many times for it be a coincidence. Perhaps they're the Consortium's version of Firewall, or maybe their agenda is entirely different. I've heard some speculation that they're tasked for preparing for and handling alien contact. All we know is that they operate at the deep black budget level and they have insane amounts of resources at their beck and call. They're also vicious as fuck, the type to shoot first and question your backup later. Standard SOP if you run counter to a Project Ozma op is to bail out fast and stay hands off. We've lost dozens of agents to them already. ♣

SYSTEM GAZETEER

Transhumanity has extended out from its lost homeworld and colonized not only the solar system but various exoplanets as well, thanks to the discovery of the Pandora Gates. This section provides an overview and incomplete sampling of transhumanity's settlements.

SOL (THE SUN)

The solar system was formed billions of years ago through the accretion of material remaining from the formation of its star, Sol, the sun. Locked ever since in its orbit, the history and present disposition of virtually every object within two light years is shaped by its relationship to this body. The sun is a bright G2 main sequence star, theoretically on the hot end of the continuum of stars able to give rise to life. For most of its history, transhumanity fueled its rises and falls with the sun's energy, first as stored in materials like hydrocarbons, later directly with solar converters.

Today the sun remains a crucial source of energy, but its outer reaches have also become home to some. The adaptations required to dwell here make these *suryas* one of transhumanity's most unusual offshoots.

SURYAS AND SALAMANDERS (CORONAL MORPHS)

Perhaps an example of transhumanity's most extreme neogenetic creations are the morphs adapted to live in the sun's corona. Suryas, named after a Hindu sun deity, are large, whale-like, and uniquely adapted to dwell in the brilliant, superheated plasma cloud of the sun's outermost layer. Each surya is like a miniature version of a circumsolar habitat. Their metabolisms generate powerful magnetic fields that shield them from the sun's heat and radiation, while acting as magnetic sails and scoops by which they sail on the currents of the solar wind and extract elements carried on it. Suryas are protected by layers of liquid water "blubber" that capture harmful ions, which internal medichines extract and eject, while maintaining useful elements such as oxygen and hydrogen, from which more water can be synthesized. They communicate using patterns of dark and light coloration on their exterior skins and are extremely sensitive to the helioseismic soundwaves that are the sun's pulse, using these vibrations to predict and avoid heavy weather in the coronal atmosphere.

A second type of coronal morph is the salamander, a tiny humanoid morph with gas jets on the back and chest for maneuvering in vacuum. Salamanders have very similar metabolisms to suryas, but are unable to survive unprotected in the corona. They subsist on the chemicals and energy extracted from the corona by Ukko Jylina, the only habitat where they are found.

Both suryas and salamanders communicate either via transmissions from their implants or by "sunspotting"—shifting dark and light patterns on their skins to form language.

HABITATS

Habitats in Sol's corona face challenges more extreme than those faced by habs anywhere else in the system. Transhumanity's only means of shielding a habitat from the heat and radiation emitted by a G2 star is to generate strong electromagnetic fields. Even then, the dangers posed by solar flares and coronal mass ejections—massive explosions that jettison coronal material tens of thousands of kilometers out into circumsolar space—mean that the Sun's polar regions are the only safe space in which to position habitats. As such, circumsolar habs require extraordinary expense to build and maintain, and two of the three major circumsolar habitats are heavily backed by distant organizations.

The outer layers of circumsolar habitats are covered with thousands of electromagnetic dynamos drawing power from the sun itself. These dynamos generate the powerful fields necessary for shielding. Within are intermediate layers filled with liquid water that captures ionized particles, teeming with nanites that collect the ions and vent them into space. The water must be regularly replaced from captured iceteroids that are imported using heavy electromagnetic shielding of their own. Within the water shield is a cluster habitat, an array of modules on a framework following a roughly spherical plan.

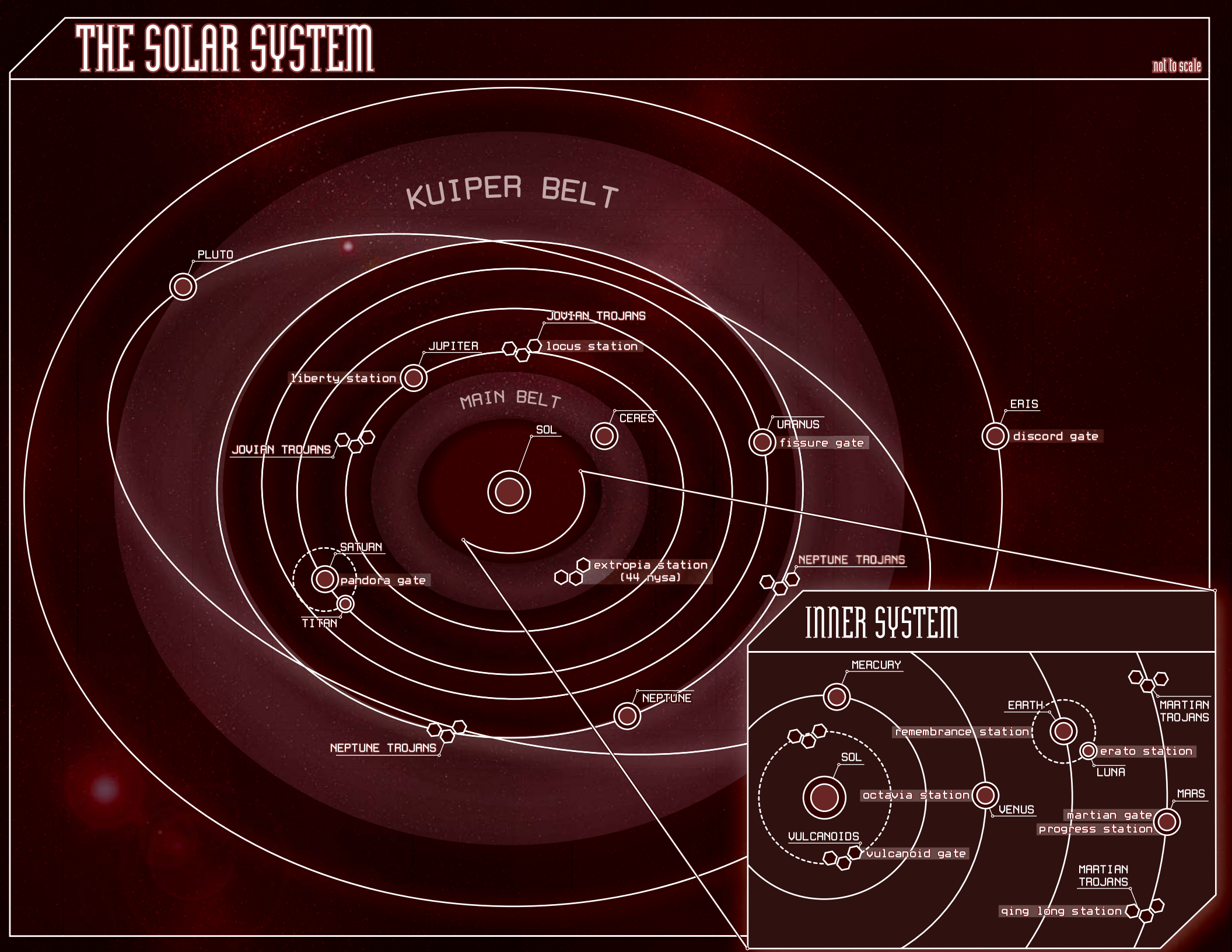
A QUICK PRIMER ON TRANSHUMAN HABITATS

Habitats are covered in detail on p. 280. A quick overview is provided here:

- **Aerostats** are massive cities floating in the upper cloud layers of Venus.
- **Beehives** are tunnel warrens inside asteroids and moons.
- **Clusters** are microgravity habitats consisting of interconnected modules.
- **Cole bubble** habitats are hollowed-out asteroids, terraformed on the inside, and also spun for gravity.
- **Dome** habitats are massive domes built on the surface of moons, asteroids, or Mars.
- **Hamilton cylinders** are self-building advanced nanotech habitats designs.
- **O'Neill cylinder** habitats are like large soda cans, only huge, over a kilometer wide and several kilometers long. The interior is terraformed and the entire cylinder is spun for light gravity. O'Neill cylinders are sometimes paired together, end to end.
- **Reagan cylinders** are an inefficient type of O'Neill cylinder, built by hollowing a cylinder within a spinning asteroid, and used in the Jovian Republic.
- **Tin can** habitats are small, cramped, cheap, modular boxes, typically used in early space colonization.
- **Torus** habitats are big donuts or wheels, spun so that the outer rim has gravity. The interior spokes are zero-G. ■

THE SOLAR SYSTEM

not to scale



Coronal habitats are easily detectable at a great distance because of the bow shock preceding them and the plasma tail left behind in the solar wind.

ATEN

Operated by a consortium including hypercorp interests and the University of New Shanghai, Aten supports a population of about 12,000 transhumans. Rumors abound that military research is a major component of this habitat's mission. Aten is heavily policed and difficult to visit. The most publicized discoveries from this habitat involve propulsion systems and new solar energy collection technologies.

HOOVERMAN-GEISCHECKER

The argonauts and Titan Autonomous University are the major supporters of this habitat, which supports a population of about 4,000. In contrast to Aten, access to this habitat is relatively open. Major avenues of research include pure science and research into corona-adapted morphs.

UKKO JYLINÄ

Ukko Jylinä is the name used by outsiders for the suryas' safe harbor. In the surya tongue, the name for the place is a common sequence of helioseismic vibrations. When transposed fifteen octaves upward into the usual range of transhuman hearing, this sound is a chaotic rumble to most ears, but the suryas consider it one of the most beautiful sounds the sun makes.

Ukko Jylinä is more of a camp than a hab, an area of refuge for suryas during severe solar weather. It also serves as a place for suryas to socialize and mate, replenish water from imported iceteroids, and egocast or resleeve. The population therefore fluctuates a great deal, usually hovering around 300, but swelling to 3,000 (nearly the entire surya population) during heavy weather. Ukko Jylina also has a few modules in which non-surya morphs can survive.

Very little of Ukko Jylinä consists of enclosed hab modules. Instead there are many utility modules with their access ports open to space. Bereft of the solar wind, suryas within the camp generally wear gas-expelling maneuvering harnesses or resleeve in salamanders if they need to do work requiring fine manipulation.

VULCANOIDS

The Vulcanoids are a population of asteroids that lie between Mercury and the Sun. Based on the predictions of early 21st-century science, the number of Vulcanoids is unexpectedly small.

V/2011-CALDWELL

Discovered in the early 21st century and subject to a flyby by a Japanese solar research mission in the 2020s, V/2011-Caldwell was nothing but a line on astronomers' catalogs, notable only for the virtual lack of cratering on the one side that was photographed. Then, a few years after the dust settled from the Fall, a small team of prospectors from Venus discovered a Pandora Gate. Now controlled by TerraGenesis, Caldwell was used primarily for exoplanet research for several years, though the hypercorp is now engaged in several alien world terraforming and geo-engineering projects. TerraGenesis regularly sells gate access to other hypercorps and organizations. Caldwell is a remarkably smooth, spindle-shaped asteroid about four kilometers long and half a kilometer in diameter at its widest point. Called the Vulcanoid Gate, it is situated at the bottom of a deep crag near one of the asteroid's narrow poles.

MERCURY

The closest planet to the sun has a mass comparable to Luna but is a great deal denser due to its iron-nickel core. Mercury rotates slowly and has no atmosphere, so that its day side is hot enough to melt most metals, while its night side is bitterly cold. Because it lacks many of the elements needed for transhuman colonies to be self-sufficient, Mercury is sparsely inhabited, save for a handful of solar power relays, a few underground mining stations, and a single large surface mining concern, Cannon.

RESOURCES AND ECONOMICS

Most of Mercury's economy is based on mining. Iron, nickel, and other metals make up 70% of the planet's mass, making it the richest source of ferrous metals outside of the asteroids. Mercury also does a brisk business in relaying solar power and serves as a jumping-off point for solar research concerns unwilling or unable to support stations in the solar corona. Mercury has limited Helium-3 deposits, although these are predominantly mined for local use. It is an open secret that several powers have antimatter production stations here. Officially, these stations are massive solar power relays, but the immense toroid particle accelerators and large spherical magnetic containment units required for antimatter production and storage are nearly impossible to disguise.

CALORIS 18

The only known site of TITAN activity on Mercury during the Fall, Caloris 18 was a sparsely-crewed solar power relay station belonging to Lukos, a now-defunct Russian corporation. Vanya Ilyanovich, the AGI administering the facility, rounded up all of the station's transhuman inhabitants and fused their morphs into a gigantic, centipede-like abomination before destroying itself in a failed attempt to merge consciousnesses with all of the minds in its creation. Since then, Caloris 18 has been under strict quarantine.

CANNON

Mercury's largest surface settlement is a city-scaled solar-satellite-powered mobile mass driver that crawls along the cool side of the planet, flinging apartment building sized ingots of extracted metal into space. The habitat is owned almost entirely by the hypercorp

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Jaehon Offworld, which built Cannon with backing from Lunar banks looking to diversify in anticipation of a post-He3 Lunar economy. Most of the 10,000 inhabitants are Jaehon employees, and security is tight. Cannon makes a long loop of the heavily-mined Caloris basin during the long Mercurian night before following a route that takes it around the planet's northern hemisphere, avoiding the blasting rays of the sun. Along the way, it stops at a series of mining operations, collecting the gigantic ingots for launch into orbit.

VENUS

Venus is Earth's closest neighbor and the planet most like it in terms of size and geology. It is a rugged world of volcanic mountains, canyons, high plateaus, and sweeping volcanic planes crisscrossed by river-like magma channels. Much of the surface is basaltic rock. The climate of Venus is one of the most inhospitable in the solar system. Perhaps only the hideous radiation of the inner Jovian moons presents a more difficult challenge to transhuman colonization. The Venusian atmosphere is a superheated maelstrom of carbon dioxide and sulfuric acid, with an atmospheric pressure at its surface equivalent to that five kilometers below the surface of Earth's oceans. Venus also lacks more than trace amounts of hydrogen, meaning that water must be imported in the form of iceteroids from the outer system.

Nonetheless, transhumanity has come to Venus, and with it, debate over how to make use of the planet. Venus has no permanently inhabited surface settlements other than a few equipment and supply caches used by planetside researchers. Despite difficulties, transhumanity has found survival strategies that work here. The most surprising of these are the aerostats, lighter-than-carbon dioxide habitats that float in the thick Venusian atmosphere. Aside from a few independents or ones loyal to the Planetary Consortium, these aerostats are the base of the new Morningstar Constellation power bloc. Notable for their research labs, nanofab design houses, software studios, and luxury resorts, the Constellation's aerostats are increasing at odds with Planetary Consortium and Lunar-Lagrange Alliance interests.

On some aerostats, areas populated only by indentured synthmorphs are open to the Venusian atmosphere. Some 500,000 transhumans live in aerostat habitats and another 10,000 on the surface. Roughly 5,000,000 transhumans live in habitats orbiting Venus.

Though the Planetary Consortium is considering the launch of a Venusian terraforming project, this plan is actively opposed by the Morningstar Constellation. The Constellation's aerostats see the terraforming proposals—which include massive cometary bombardment or building a planet-sized sun shade to cool the atmosphere—as not only unworkable but disruptive to their lives and profits.

Venus is a fascinating place for climatologists, geologists, and other planetary scientists. The discovery of Venusian protobacteria created a new branch of life sciences overnight, though so far the practical applications for organisms with such radically different metabolisms from terrestrial life have been limited.

GERLACH

Gerlach is an O'Neill cylinder supporting about 100,000 transhumans. Generally recognized as the research powerhouse of Venus, Gerlach is also one of the strangest places in the inner system. The inhabitants have strong ties to the argonauts and sympathies for the outer system autonomists and are strong proponents of morphological freedom, cognitive experimentation, and open innovation. Gerlach's main activities are planetside research and exploration, hostile environment morph design, and aerostat construction.

OCTAVIA

Octavia is the most successful aerostat habitat to date and the political center of the Morningstar Constellation. It maintains an altitude of roughly 55 kilometers above the northern highlands of Ishtar Terra. Octavia resembles an immense, mushroom-shaped skyscraper, 450 meters tall, ringed at its center by four radial outrigger spars, each ending in a stabilizing gas envelope filled with helium. The cap of the mushroom is a hard, translucent dome that provides an open, park like space while also serving as the main gas envelope (oxygen, which is much lighter than the CO_2 making up most of Venus's atmosphere, is the main source of buoyancy). The habitat is fluted from top to bottom, going from a diameter of almost 300 meters at the base of the dome, to 15 meters wide at the very bottom. A huge counterweight tethered to the bottom of the structure prevents the habitat from capsizing during storms. Atmospheric craft and shuttles from orbit may land at flight decks near the base of the outriggers. 500,000 people live aboard Octavia.

APHRODITE PRIME

One of 20 smaller aerostats, Aphrodite Prime hovers 54 kilometers above Aphrodite Terra. It is a center for Venusian tourism; fully a quarter of this aerostat is a resort for wealthy off-world visitors. Aphrodite Prime is also the primary research station for the design and creation of life forms adapted to live in the Venusian clouds. This aerostat has a population of 300,000 and features closed-environment test aviaries populated with clouds of air plankton and schools of recently-designed flying squid and balloon fish.

EARTH

Ecologically devastated and infested by the weird spawn of the TITANs, transhumanity's homeworld doesn't get many visitors. Earth's once-populous urban regions are massive sprawls ruined by war and heavy weather, infested with dangerous artificial life and the occasional survivalist gang. Elsewhere, irradiated blast zones and desolate wasteland prevail. Due to harsh climatic conditions, the wilderness has been slow to reassert itself, and vast swaths of dead forest or burned grassland are common sights.

Even from orbit, Earth shows deep scars. Breaks in the sooty cloud cover created by orbital bombardment during the Fall reveal continents ravaged by coastal flooding, desertification, and radical temperature shifts. The only known detonation of an antimatter bomb within a planetary atmosphere, centered on what was the Chicago-waukee Metroplex in North America, left a crater over 200 kilometers wide wherein most matter was instantly vaporized. Craters left by mass driver bombardment dot the surface as well. Mass die-offs of lynchpin species like honey bees and krill destroyed entire ecosystems, leaving vast swathes of barren land and sea inhabited by only the most adaptable species. Most of Europe is sub-artic; much of Africa and North America, desert. Ironically, transhumanity's deployment of nuclear weapons against TITAN surface installations arrested the effects of global warming by creating a nuclear winter. Nuclear attacks against Earth have ceased, but the Lunar mass drivers still occasionally hurl captured asteroids at suspected surface works created by remaining TITAN war machines. In any case, the damage from humanity's warming of the globe was already done. The patterns of life on Earth, and the very face of the planet, have been irrevocably rewritten.

Earth once had multiple space elevators in operation, but with exception of the Kilimanjaro beanstalk,

VENUSIAN RUMORS

[Incoming Message. Source: Anonymous]
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We need you to investigate some odd rumors circulating about activity on the Venusian surface. According to reports, an Omnicor research team went missing about a week ago. Unlike many Venus surface teams, these weren't teleoperated bots but actual synthmorph-sleeved researchers operating away from the safety of an aerostat's tether—which is suspicious behavior itself. Search parties have turned up no sign of the missing morphs, but scuttlebutt says they ran into signs of recent TITAN activity that have them freaked out. I haven't found any evidence to back this up, yet—it could just be some misinformation to keep people from digging around part of the surface. I've heard that some security corps have some quantum data caches buried away down there. Looking into this may require getting a hold of some heat and pressure resistant synthetic morphs.

SYNOPSIS
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GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

the others were destroyed during the Fall, wrapping around the planet as they crashed to Earth, leaving swathes of destruction.

POPULATION

Earth's population is a matter of speculation. The reclaimers and Lunar authorities, both of whom spend a great deal of effort monitoring Earth, agree that surface energy emissions suggest a population of about one million once-humans living as servitors to the TITANs, although these numbers assume patterns of energy usage similar to those of pre-Fall humanity.

Though the Planetary Consortium claims that no survivors remain on Earth, reclaimer estimates guess that between 20,000 and 100,000 free humans remain. These numbers are hard to formulate, given the limited number of remote areas where humans could remain undetected while obtaining enough food to subsist. Some areas likely to conceal sizable remnant populations include the highlands of Papua-New Guinea, the Ozark Mountains of North America, and the jungle uplands of Vietnam and Laos, though it is also possible that certain underground and undersea settlements survive. Attempts to make contact with survivors have universally ended in disaster.

During the Fall, thousands of people unable to escape Earth resorted to having themselves backed up and transmitted off-planet. Many of these—along with some who had no backups—also put there bodies in cryogenic storage, hoping to wait out the Fall for rescue. Some reclaimers have speculated that dozens of these cryogenic facilities may still be functional.

HABITATS

Earth had a mature orbital industry sector and a considerable population in orbit at the time of the Fall, with over a billion people living full-time in space. Earth orbit was one of the fiercest battlegrounds of the Fall, however, and hundreds of habitats and other installations were destroyed or rendered unusable. As such, Earth orbit and the Lagrange points are littered with the detritus of pre-Fall humanity. Derelict habitats can mean tidy profits for intrepid scavengers, but many are also infested with TITAN spawn and hostile nanoswarms, making them incredibly dangerous.

To make matters worse, someone or something has unleashed a large number of autonomous killsats in Earth orbit to interdict would-be visitors. Some of these are repurposed pre-Fall military hardware, while others are newer construction. So far, no one claims responsibility for them. The Planetary Consortium is suspected, as they support and sometimes enforce a quarantine of the planet, but the possibility exists that the killsats may be TITAN relics or the efforts of another agency.

Despite the chaos of Earth orbit, numerous habitats remain active here, many of them participants in either the Planetary Consortium of Lunar-Lagrange Alliance. Dozens of formerly derelict habitats have also become home to squatters, some of them with criminal intent, others just looking to escape the squalor of life in the overcrowded Lunar-Lagrange habitats, even if it means taking a risk.

FRESH KILLS

Essentially an armed-to-the-incisors scum barge, Fresh Kills is a salvage base near the edge of Earth's L5 point. The base is built around a huge central docking spindle with moorings for small craft and habitat modules in the center, and massive weapons batteries at either tip. Scavengers can moor their own craft or, at considerable expense, egocast in, resleeve at the facility, and hire shuttles for excursions. The gun batteries are articulated such that any craft showing signs of trouble can be hastily jettisoned and destroyed. 2,000 transhumans live on Fresh Kills, although the population is transient and fluctuates a good deal.

PARADISE

Situated in a halo orbit at the Earth-Sun L1 point, Paradise was an exclusive spa and resort station for the ultra-rich before the Fall. In the wake of the Fall, Paradise fell on hard times, swarmed as it was with refugees and no longer an ideal vacation spot. Recently, however, Paradise fell back in favor with the inner system glitterati, who undertook measures to expel many of the lingering squatters and refurnish it as an elite social space. Recent rumors suggest the Consortium's Hypercorp Council has used Paradise for important face-to-face meetings.

VO NGUYEN

The Reclaimers maintain this station in high geostationary orbit, monitoring Earth and making plans for potential geo-engineering efforts. Vo Nguyen is a small O'Neill cylinder hidden in a dangerous cloud of space junk and protected by swarms of killsats, gun emplacements, and drones. It is occasionally used as a jumping off point for secret surface expeditions.

LUNA

The first planetary body to host permanent human habitation, Earth's sole moon is home to the second largest population of transhumanity on a single planet and remains a lynchpin of culture and economic activity. Lunar history has been shaped dramatically by the Fall. Before the need to evacuate Earth arose, it was expected that the Moon would remain largely an automated mining concern, never attaining a population of more than a few million. Luna was never seen as an economically viable location for colonization, the focus instead falling on Mars and the outer system.

When the Fall came, every polity that couldn't hope for a shot at Mars or elsewhere set its sites on Luna. The Indians were the only great power that had invested heavily in Luna. The other three major

settlements, Erato, Nectar, and Shackle, were multinational and hypercorp concerns with no strong national affiliations. These three cities swelled overnight into polyglot refugee camps, while the Indian settlement, New Mumbai, was nuked black by the corps when it became apparent that a TITAN infection had taken hold there.

Bereft of nationhood, Lunars developed their own resourceful, tough-minded culture which has emerged as a counterbalance to the radicalism of the outer system and the excesses of Mars.

Transportation on Luna is largely by suborbital rocket, although trans-sonic bullet trains also operate along shorter routes. The major space port is at Nectar. There is also a skyhook—a massive orbiting satellite spaceport that drags a massive tether, which acts as a space elevator along a track running across the Lunar surface south of the equator. As a result, many smaller cities lie along the skyhook track.

Fashion/Design

Nectar is one of the three fashion/design capitals of the system (along with Noctis on Mars and Extropia). The Lunar design houses have two major advantages: an inventive population and a low planetary gravity that makes it easier to design for the low gravities that prevail in much of the system. Some habitats elsewhere in the system even choose a rotational speed that simulates Lunar gravity in order to get the greatest benefit from Lunar designs.

TILION'S JUPITER BRAIN

[Incoming Message. Source: Anonymous]
[Public Key Decryption Complete]
Our investigation into codename: TILION's Lunar research activities has confirmed our suspicions. The hypercorp is engaged in experiments to convert confined spherical masses in the Lunar interior into testbed micro-Jupiter brains. The silicate-rich Lunar crust makes the locations they have chosen ideal for the project. Though we have not verified it, we believe that TILION not only followed the trail of TITAN research into this area, but is in fact in possession of a small cache of TITAN-made computronium. There is no saying what the TITANS may have been using this cache for, what it may store, or what may occur if TILION completes the project and brings the micro-Jupiter brain online. Fortunately, time seems to be on our side, and we have several weeks if not months before any significant part of the project is activated. We will continue to infiltrate and learn more, but we strongly suggest an erasure squad be moved into position and placed on standby. ♣

Helium-3 Mining

Although it's not the richest place to mine He-3, Luna has such good infrastructure for extraction and distribution that it more than makes up for the fact that Luna is very poor in hydrogen for more conventional forms of fusion. Unlike the vast reserves of the gas giants, however, the amount of readily extractable He-3 in the Lunar regolith is finite. Some of the richer deposits are already tapped out, and concerned Lunars consider their world's future after these deposits are exhausted a major issue.

Finance

The Lunar banks are the oldest (and thus richest) in the system, though hypercorps like Solaris are close on their heels. Interestingly, the rise of the reputation economy in the outer system has not presented as much of a problem for these banks as one might have expected. Lunar banks got hip to the reputation game long before the Martian financial institutions and moved in to capitalize on it immediately. By the time Martian banks knew what was going on, Lunar financial institutions had struck deals with the Extropians and dominated all of the points of exchange where favors could be bartered for cold, hard cash between inner system corp types and outer system anarchists. The same genius fueling Lunar design created a complex barter to cash network that almost everyone uses. While some autonomists find it infuriating that they have to deal with a monolithic banking system to get by in the inner system, others are simply happy to deal with the Lunars instead of the Martians for this service.

Erato (Eratosthenes)

Erato (population 5 million) is a major mining center consisting of a series of heavily shielded surface domes and a vast underground city. Erato is centered around the Eratosthenes crater on the southern edge of the Mare Imbrium (Sea of Showers), in the northern hemisphere of the Terra-facing side of Luna. Erato has access to both the rich titanium deposits of the Mare Imbrium and fields of Helium 3-abundant regolith.

Erato is one of the oldest mining settlements on Luna and one of the first to become commercially viable. As such, many of the Lunar banks are centered around this city. The vaulted heights of the Great Cavern of Erato, originally excavated by a Sino-European conglomerate, reach a height of 1.5 kilometers at the apex, leaving room for a teeming city of gardens and towers grown from Lunar silicates and industrious nanites, lit from above by sunlight entering via great mirrored vents.

Nectar (Nectaris)

Nectar (population 9 million) lies about 100 kilometers due east of Theophilus crater on the Mare Nectaris (Sea of Nectar) in Luna's southern hemisphere. Nectar is a design powerhouse, home to the great Lunar design houses that set fashion and design

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

trends for much of the solar system. Due to its location relatively close to the Lunar equator, Nectar also hosts Luna's primary long-haul space port and is on the pickup path for the Lunar sky hook.

New Mumbai Containment Zone

The incineration of the New Mumbai colony with nuclear weapons during the Fall to prevent the spread of TITAN infection left a scorch mark roughly 100 kilometers in diameter on the face of Luna that is still visible from high orbit. The colony was a heavily automated Helium-3 mining station, located in the midst of rich Helium-3 fields on the edge of the Mare Moscoviens. It remains a heavily-patrolled quarantine zone to this day.

Shackle (Shackleton-New Varanasi)

Shackle (population 6 million), built in and around the south polar Shackleton crater, is centered around one of two major water extraction operations on Luna. New Varanasi, the city of temples, is the most impressive section of the city. Shackle was the other major site of old Indian influence on Luna, and with the destruction of New Mumbai holds special importance to descendants of the Indian diaspora. New Varanasi is a monumental artificial cavern complex with an intricate canal system fed by melted ice from the polar caps above. As a source of lifegiving water, it now holds the same importance to the Hindu faith once ascribed to the River Ganges on old Terra. Survivors of other Indian religions, such as the Jains and Sikhs, have also made their temples here. This makes Shackle a major pilgrimage site; tourism is the major industry after water extraction. A small herd of Indian elephants is a major attraction, and the elephant god Ganesha, Remover of Obstacles, is extremely popular on Luna, even with non-Hindus.

Mars

Earth was the cradle of transhuman civilization, but Mars, with a population of 200 million, is now its heartland. When humanity began its spaceward diaspora, Luna was its first stop. Yet while Luna boasts a sizable population, Mars was the first world humans settled where they could thrive entirely on locally available resources. During the first few decades, the early Martian settlers dwelt in tin can hab units, extracting methane from the local atmosphere for rocket fuel and water from the Martian permafrost, farming in inflatable greenhouses, and eventually manufacturing enough greenhouse gases to warm the planetary climate to the point where transhumans could walk the Martian surface unprotected, save for oxygen respirators.

The second phase of the great project of terraforming Mars—husbanding plant life and microbes engineered to rapidly replace atmospheric carbon dioxide with oxygen—was already underway at the time of the Fall. A belt of orbital mirrors helps to heat the planet by focusing the sun's rays. The spread of plant life is a long-term project that will take several centuries to produce a fully breathable atmosphere, but the nigh-immortal transhumans of Mars are prepared to be patient. A new homeworld is worth the wait. Research into new plants and microorganisms capable of releasing oxygen and nitrogen into the Martian atmosphere at an ever-accelerating pace is a major focus of economic activity.

In the meantime, the red planet is a place of startling contrasts, from the stark beauty of its mountain ranges and high desert, to the slowly-greening bottomlands of the equatorial Valles Marineris canyon system. In these bottomlands, oxygen levels are slowly rising, and liquid water can now be found in canals that had already been dry for millions of years when transhumanity's ancestors came down from the trees. Mars is a popular destination for travelers from around the system. Many Martians accrue wealth by operating lavish hotels, offering tours of historical sites, and leading wilderness expeditions to the rugged highlands and vast deserts of the untamed Martian frontier.

Mars now sports five vast, domed cities, mostly in the equatorial regions, along with numerous smaller settlements. Settlements are connected by surface roads, a network of near-sonic maglev trains, and air/spaceports from which suborbitals, airships, and near space rockets fly on regular schedules. Thanks to the abundance of methane fuel and the one-third Earth gravity, transhumans on Mars have finally got their flying cars as well, and all settlements have well-delineated rights of way for these vehicles. Meanwhile, in the wild uplands, planetologists and terraforming engineers dwell in small villages, living the simple life in ruster morphs while seeing to the continued development of the Martian climate and atmosphere.

As a partially terraformed planet with vast tracts of unused land, Mars is one of the few places that can offer new sleeves to infomorph refugees. Martian brokerage houses do a brisk business in the purchase and resale of infomorph contract labor, with agreements (for some) leading to eventual sleeving. This has led to a sizable Martian underclass, however, organized as a growing resistance movement under the Barsoomian banner (though the hyperelite socialites disparagingly call them "rednecks").

Regions

Mars is broadly divided between the lowlands of the north and the highlands of the south, which in many places are separated by dramatic cliffs up to two kilometers high. Mars has seasons just as Earth, and both north and south poles have permanent ice caps that persist despite transhumanity's success in warming the planet. Both regions present obstacles to terraforming. The northern plains are open and windswept, while the rugged southern uplands remain a difficult terrain for life to gain a foothold. Even so, tough Earth species like cacti and succulents are able to grow in the best spots.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Ma'adim Vallis: This deep canyon system on Mars holds one of the Planetary Consortium's most treasured possessions: the Martian Gate. This Pandora Gate was originally discovered by nomadic Barsoomians, then violently wrested from their hands by hypercorp troops—an event that still rankles the rednecks. As different hypercorps themselves nearly came to blows, the Hypercorp Council was forced to step in and offer a resolution that all could agree to. A new hypercorp was founded—Pathfinder—which would control exploration and exploitation of the gate and resources beyond, with special privileges and rights given to Planetary Consortium members. The Martian Gate is now a staging point for numerous exoplanet colonies, though some fear the prospect of keeping a presumed TITAN artifact operational on transhumanity's most populous planet.

Olympus Mons: Mars' most notable landmark is the mighty shield volcano Olympus Mons, on which the first—and still principle—Martian space elevator was constructed. Similar in shape and origin to Earth's Hawaiian Islands, but now dormant, Olympus Mons is one of the highest mountains in the solar system, rising 27 kilometers.

Olympus, the settlement in the volcano's caldera around the base of the space elevator, was once the chief city of Mars, but waned in popularity as a place to live when terraforming made other regions more attractive. A maglev train from Olympus takes a little over three hours to reach Noctis; air travel is even quicker. Despite the waning of the city, the space elevator still sees heavy use.

Valles Marineris: Most of transhumanity's terraforming efforts center around the winding Valles Marineris canyonlands, which twist and turn over 4,000 kilometers east-to-west along the Martian equator. In these relatively warm bottomlands, liquid water is becoming abundant and the land is green with hardy Terran plant species like crab grass, dandelions, and towering Douglas firs (which botanists estimate may reach heights of 180 meters in the low Martian gravity). 75% of the transhuman population of Mars lives in this region, giving it the highest density of transhuman habitation in the solar system.

The Zone: Officially labeled the TITAN Quarantine Zone, the TQZ is a large area stretching from the smooth plains of Amazonis Planitia (between the Tharsis and Elysium volcanic areas) and southeast to Arsia Mons (just west of Noctis). This zone is known to be crawling with leftover TITAN machinery: warbots, nanoswarms, and other dangerous things. Several devastated habitats lie in this region, including the former Islamic stronghold of Qurain. Few dare venture here, though some rumors suggest that Barsoomian smugglers make use of the Arsia Mons caves and even scavenge for TITAN tech, despite the risks. Planetary Consortium drones keep a vigilant eye on the Zone's borders, though for unknown reasons the TITAN relics rarely stray beyond its bounds.

ASHOKA

Ashoka is located in a crater in the Ares Vallis region about 3,000 kilometers northeast of Valles-New Shanghai, not far from the landing sites of the early Viking and Pathfinder probes. The town is a popular spa and spiritual retreat for Martians wanting to revisit their pioneer roots. It is also an active terraforming station and a major point of contact between the seminomadic Barsoomian culture of the high desert and the settled Martians of the equatorial canyonlands. 10,000 scientists, historians, terraforming workers, and spiritual gurus live in the town and surrounding area. A major attraction is a museum housing the Pathfinder lander and the Sojourner rover (which was still operational when humans landed and discovered it circling endlessly in a crater). The Viking lander is in another museum a short monorail ride from town. In a move that infuriated historical purists, all three machines were given modern hardware upgrades when discovered and now house AIs who act as historians

of early Mars exploration. Sojourner is particularly friendly and sometimes leads lucky groups on walking tours of early landing sites.

Elysium

Located in the Elysium and Hyblaeus Chasma in the north of the Hesperia region in Mars's eastern hemisphere, Elysium is the entertainment capital of the system and the largest Martian city outside of the canyonlands of the equator. It is also the most physically remote of the large Martian cities, though transhumanity's advanced transportation technology (suborbital flights and rocket flight from habitats above) make this remoteness a trivial quality.

Elysium and Hyblaeus Chasma together make up a 250-kilometer long canyon system in the shadow of Elysium Mons, a 14-kilometer mountain located about 200 kilometers northeast of the city. In between is the Zephyrus Fossae, an undulating, windswept lava plain. The city was the vision of one person, Zevi Oaxaca-Maartens, an eccentric entertainment magnate who was intrigued by the close proximity of the eminently terraformable Chasma to the unspoiled Hesperian terrain.

The city is only 30 years old but already boasts a population of 9 million transhumans. Elysium is mostly built into the canyon walls of the Chasma, sprawling over a 75-kilometer stretch, all of which has been domed over. Unlike the big domed metroplexes of the south, Elysium takes advantage of the canyon walls, which are close enough together that rather than building free standing domes, the builders have simply built great enclosing arches to completely cover the canyon. These expand northward year by year as the city grows. From low orbit, it looks like a great, glistening serpent.

The Martian city of Elysium is the spiritual successor to old Terra's Los Angeles as the entertainment capital of the solar system. Glamorous stars and blood drinking producers, coupled with a healthy dose of outrageous (if often vapid) transhuman creativity have made Mars an unrivaled media powerhouse. Elysium may boast more exalt and sylph morphs per capita than any other transhuman city. Image is everything here, and to visitors it may seem as if everyone in this city is either blindingly beautiful or calculatedly ugly. The most successful performers and entertainment tycoons live lives of glittering privilege that would make the richest gerontocrat in New Shanghai mildly envious. Everyone else, from up-and-coming game producers to the virtual ero performers, has to hustle constantly.

Noctis-Qianjiao

With a population of 13 million, Noctis-Qianjiao is the major metroplex in the west of the Valles Marineris region, an area known as Noctis Labyrinthus. Although not as hospitable as the Eos region in which Valles-New Shanghai lies, Noctis Labyrinthus is considered prime real estate for its gorgeous scenery and well-developed river systems. The metroplex boasts two major domes: Qianjiao, on the northern bank of the River Noctis, and Noctis City (normally just called "Noctis") to the south. Connecting the two domes and spanning the river is a sprawling network of lesser domes and souks, although these have been pushed north and south over the years as the planet warms and the river grows wider.

Noctis-Qianjiao is the center of the Martian design and fashion industries, which in the abundant Martian economy arguably makes the city as important as much larger Valles-New Shanghai. This settlement's proximity to the Zone sometimes alarms visitors, but there have been no public incidents to cause concern so far.

Olympus

Olympus, with a population of 1 million living in a space designed to accommodate 6 million, is something of a ghost town. The former principal city, built in the caldera of Olympus Mons around the space elevator, is now fallen into disuse. As the temperatures rose and the climate improved in the Valles Marineris canyonlands, most of the population left the windswept caldera for more hospitable surroundings. Olympus is not and never was a large domed city, consisting instead of a souk-like network of minor domes and antiquated tin can hab modules.

Martian Manhunt

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Those deaths you asked me to look into? It's looking worse than we feared.

I took a buggy car out to the Zim settlement. It's just a collection of tin can modules, supporting a small terraforming ecostation and facilities for nomadic rednecks. On average, it's home to 150, if you count the 20 or so pleasure pod AIs that serve as local "entertainment."

A week ago, a nomad known as Hassan Naceri rolled in. He's a regular, word is that he runs a lone courier service for the Barsoomians. On this recent visit, though, his behavior was off. He was nervous and agitated. He told one drinking buddy that he'd been forced to hide out in the Zone for a few days and the experience had put him on edge.

Turns out Naceri had run off with a ruster morph without working out his full indenture to Fa Jing a few years back. The ego hunter showed up in Zim and Naceri lost it. He killed the ego hunter and everyone else in the room.

We found a spime's sensor records that show Naceri transforming. He also killed half a dozen people simply by looking at them.

That's right. This bugger's infected.

The Martian Rangers are hot on his trail, but they don't know what they're dealing with. So we're off to try and catch him—it—first. Wish us luck. ♣

Low atmospheric pressure and bone-freezing temperatures at the city's altitude of 27 kilometers mean that most transhumans venturing outside the souks and hab modules still need the equivalent of light vacsuits to survive. Martian Alpiners, a rare morph found in few other places, are not uncommon here due to the harsh conditions.

The city center is well-maintained and carefully overseen by the Olympus Infrastructure Authority, a minor hypercorp that operates the space elevator. The outskirts are economically depressed and sometimes dangerous, mostly deserted and populated by squatters, indentured downloads on the run, and other people who really want to be left alone. Occasional outbreaks of dangerously mutated artificial life are one of the few reasons for which the Authority bothers to intervene in the outskirts. Otherwise, the old tin can habs and their strange inhabitants are left to decay.

PROGRESS (DEIMOS)

Progress is one of the largest Cole bubbles in the Solar System. With 8.5 million residents, it is second in population only to Extropia in the belt. Progress was created when Fa Jing evicted all of the former residents from the Martian satellite of Deimos, excavated the inside of the moonlet, and used a massive solar array to convert it into a bubbleworld. From an engineering standpoint, Progress is something of an embarassment. The habitat was originally meant to exceed Extropia in size considerably, but difficulties with heating and spinning Deimos forced Fa Jing to abandon their efforts early or risk the moonlet breaking apart.

Progress is nonetheless an impressive habitat, home to hypercorp glitterati and an outpost for a host of major political and economic concerns. Its sister moon, Phobos, remains a warren-like tunnel habitat due to the presence of multiple legal interests unable to agree upon the disposal of the satellite.

VALLES-NEW SHANGHAI

The principle city of Mars, Valles-New Shanghai is transhumanity's largest planetary metroplex, with 37 million inhabitants. Valles-New Shanghai lies in the heavily terraformed Eos region in the east of the Valles Marineris canyon system. The metroplex is comprised of five major domes connected by a network of Martian souks. The souks are a unique architectural feature of large Martian cities, consisting of covered thoroughfares and galleries lined with bazaars, eateries, and squats. It is said one can find anything if one spends enough time walking the souks.

The domes themselves are tamer, with artificial waterways (many of which now connect to the tenuous rivers etching the surface of the Eosian bottomland), grand architecture, residential mini-arcologies, entertainment complexes, and hypercorp conference centers. The most impressive by far is the Bund, the larger and older of two domes making up the city of New Shanghai proper. New Shanghai is roughly bisected by the twisting Ares, an artifical river that helps regulate the dome's climate. Near its center is an almost brick-for-brick duplicate of the original Bund from the destroyed Earth city of Shanghai.

The other four domes are Little Shanghai (a newer, smaller dome adjacent to the Bund), Valles Center (a business and financial center that rivals the Lunar banks of Erato and Nectar), New Pittsburgh (also called the Burgh, a hub of research and planet-side industry), and Nytrondheim (housing major entertainment districts).

Valles-New Shanghai is transhumanity's wealthiest population center, a hotbed of art and culture, and one of the system's great centers of hypercorp activity. The populace includes an extremely high percentage of gerontocrats, but their stifling influence on culture, economic mobility, and the legal system is only one force among many in a city of 37 million people. The city has expanded so much to accommodate its exploding population since the Fall that new construction is a constant. Crime and corruption are widespread, though the worst of it is contained to Little Shanghai. Valles is a place where dreams are made and broken every day, if not every hour.

MARTIAN TROJANS

Not to be confused with the much larger Jovian Trojans, the Martian Trojans are a small group of mostly rocky asteroids trailing and preceding Mars at its L4 and L5 points.

QING LONG (AZURE DRAGON)

Qing Long, with a population of 2 million, is the largest O'Neill habitat in the system. It is situated among the Trojans at the Martian L5 point. Qing Long has its roots in the Chinese Mars colonization effort. Despite its exceptional size, it is one of the oldest habitats of its type, having been built almost entirely from metal-rich asteroids mined near its present location.

Qing Long is a major underworld haven. The habitat's administration is beholden to several criminal organizations who normally refrain from killing one another. The habitat nominally obeys some hypercorp principles, such as limited access to cornucopia machines, forking, and AGIs. However, thriving grey and black markets enable people with the right connections to acquire just about anything here.

ASTEROID BELT

Spread out over a massive region between the orbits of Mars and Jupiter, the belt contains a few hundred asteroids greater than 100 kilometers in diameter, over a thousand objects greater than 30 kilometers in size, and countless smaller ones. Despite this, the total mass of asteroids in the belt is only a fraction of one of the inner planets, meaning that asteroids are spread out over great distances. A spacecraft flying through the belt is highly unlikely to encounter an asteroid unless it deliberately navigates toward it.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Resources and Economics

The rich, easily accessible mineral deposits in the Belt were a major link in transhumanity's first steps toward the outer system. Automated mining and high-impulse ion boosters enabled outer system colonists to move metal-rich Main Belt asteroids into the orbits of Jupiter, Saturn, and beyond, where metallic asteroids are much scarcer. This activity continues to this day as transhumanity pushes further out into the system.

Habitats

Hundreds of small habitats, mostly involved in prospecting activities, dot the belt. Distant from Earth, settlements in the belt were largely spared the devastation of the Fall. Both hypercorp and autonomous outposts flourish here. Derelict habitats abandoned when nearby asteroids were boosted into the outer system or depleted are common here as well, although some of these are now occupied by residents who are best left to their solitude.

Ceres

One of the system's three dwarf planets (along with Pluto and Eris), Ceres is almost 1,000 kilometers in diameter and hosts a population of almost a million. Unlike most Main Belt asteroids, Ceres has an icy crust with a layer of liquid water beneath it, like a miniature version of Jupiter's moon, Europa. With its abundant water, Ceres has a major role in resupplying other stations in the belt. Similar to Extropia, Ceres operates largely along anarcho-capitalist lines. However, the Hidden Concern, a cartel run entirely by uplifted octopi, holds sway in the sub-crustal sea and maintains a stranglehold, as it were, on water extraction operations. Cerean octopoid morphs are specially adapted to survive in the ammonia-rich waters of the Hidden Sea.

Extropia (44 Nysa)

This massive beehive habitat is a major crossroads and anarcho-capitalist/mutualist marketplace. Extropia is a neutral free city whose infrastructure and social fabric is maintained by a loose association of anarcho-syndicalist affinity groups. Extropia's neutrality hinges on strategic alliances between key local figures, their networks, and an unusual array of outside interests that include the Lunar banks, techno-libertarian factions, and outer system colonies dependent upon raw materials exported from the belt. The hypercorps use Extropia as a tax shelter and a haven from which to do illicit business. There are no laws or government as such; visitors are advised to register with an insurance and security provider. Named after one of the first transhumanist movements, Extropia is considered a utopia for transhumans looking for body modifications. AGIs and forking are accepted and allowed here. The transhuman population is nearly ten million.

Nova York (Metis)

One of the more unusual near-weightless habitats is Nova York, the main city on Metis, a large nickel-iron and silicate asteroid located in the main belt. Nova York, the third largest habitat in the main belt, is a thriving metropolis of 500,000, with the main portion of the city located in a spherical cavern approximately four kilometers in diameter, the top of which is two hundred meters beneath the asteroid's surface. Lit during the day by a series of huge light tubes in the outer walls, at night the lights of the buildings cause the surface of this sphere to resemble an enormous geode. The habitat's basic design consists of many thousands of exceptionally tall and fragile-looking buildings that extend between one hundred and fifteen hundred meters above the surface, as well as a few buildings that stretch from one side of the cavern to the other. In Metis's minute gravity of 1/140th of a g, up and down have little meaning, and even relatively fragile buildings are in no danger of falling down. The vast majority of the buildings, including ones more than one kilometer tall, are made from thin plastic panels over a durable supporting framework. These buildings jut out at all angles from the sphere.

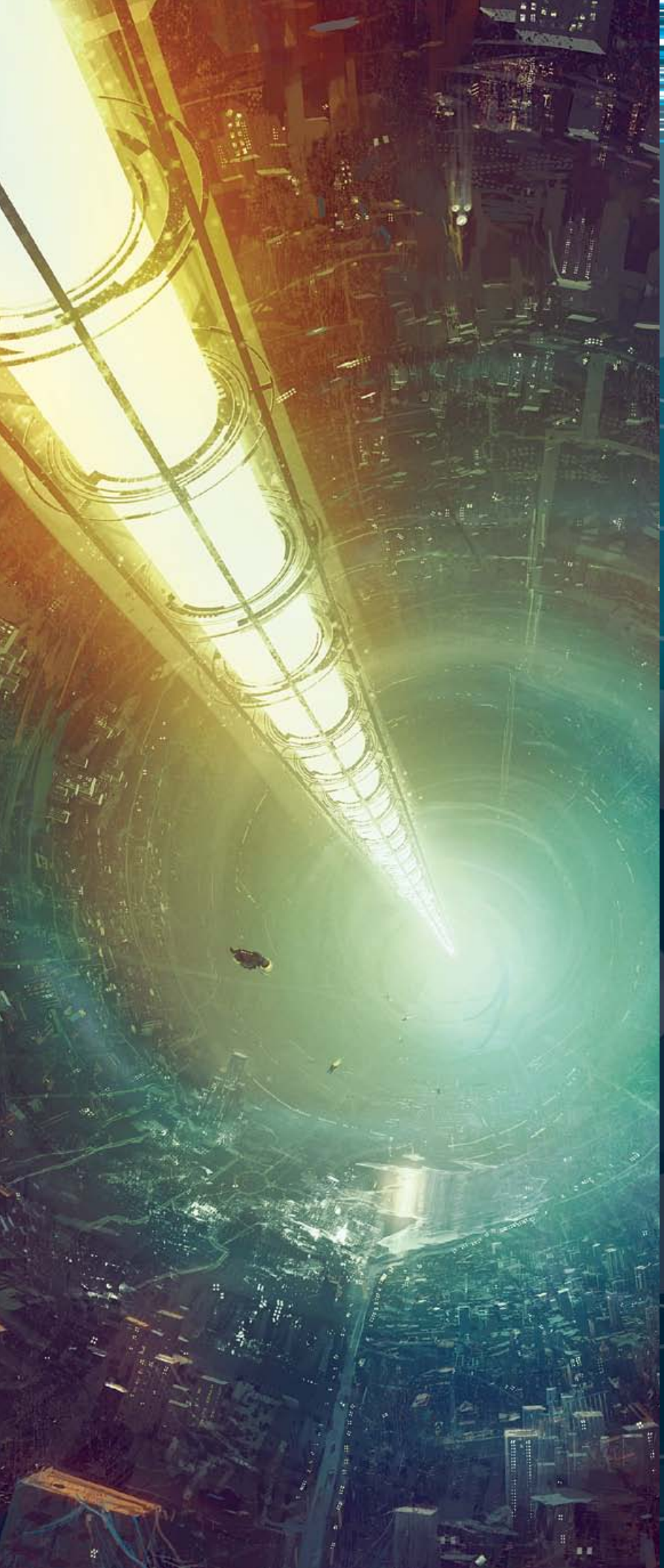
Many inhabitants of Nova York move from one building to another by jumping, and a single leap can carry someone many hundreds of meters. Residents do not worry about falling—the combination of air resistance and exceedingly low gravity means that even someone falling from the top of the cavern to the bottom is in no danger of injury. In this environment, the only real meaning of up and down is that down is where you look for objects to come to rest (as long as an air current does not pick them up and blow them around).

Jupiter

Large enough that it could almost have formed the nucleus of a protostar in its own right, Jupiter's massive size makes the Jovian System one of the most challenging places in the system to colonize. Jupiter's powerful magnetic field means that its inner moons—and the outer ones, when their orbits pass through its immense magnetotail—are bombarded with enough ionizing radiation to kill transhumans not protected by the heaviest of shielding within a matter of hours. There are sixty-three moons and moonlets in the Jovian system, but only the well-explored, populous, regular moons are described here.

Resources and Economy

Jupiter's powerful gravity well is a major hindrance to gas mining in the planet's atmosphere, as even craft that do not succumb to the violent, centuries-long atmospheric storms can achieve escape velocity with only the most powerful propulsion systems. Given the need for heavy shielding on such craft, gas mining on Jupiter is not nearly as efficient as on Saturn. Jupiter has a tenuous ring system, much less dense than Saturn's, which extends out for 20,000 kilometers



around the planet, encompassing the orbits of its two closest moonlets.

However, Jupiter's gravity is also a valuable resource. Craft bound for Saturn and beyond can slingshot themselves outward by circling the planet to pick up velocity, cutting months or years off their trips. The heavily militarized Jovian Republic levies tolls against all spacecraft using Jupiter's gravity to pick up velocity, including asteroids under propulsion. This protection money is the Junta's primary source of revenue. Planetary Consortium ships generally accept the payment as part of operating expenses. Other factions are not so cooperative, and the Junta regularly seizes or destroys blockade runners.

Habitats and Moonlets

Most of Jupiter's moons are really captured asteroids, lacking the size and geological complexity of planetary bodies. All are occupied. Some were converted to habitats; others host only Junta military and mining outposts. The Jovian moonlets consist mostly of carbonaceous rock, poor in metal, with some of the larger moonlets having layers or even cores of ice. Beehive habitats and Reagan cylinders predominate in the Jovian system. Reagan cylinders (called "sarcophagus habs" by every other faction) are an inefficient variation on the O'Neill cylinder in which excavators hollow out an immense, cylindrical cavern in a rocky asteroid and then alter the asteroid's rotation with external thrusters to simulate gravity.

Other habitat types are rare in Jovian orbit, especially within 2 million kilometers of the planet, where the radiation is strongest. For a bioconservative faction unwilling to adopt radiation-resistant morphs, the Junta is in a poor location. Shielding their populace beneath tons of rock is a necessity. Despite its military hegemony, the Junta can't control all of Jovian space, and there are things it can't do on its own—like exploring Europa. A number of unaligned habitats and surface settlements exist in the ring system and the orbits of the Galilean moons.

The Jovian Republic has renamed Jupiter's moons after various neo-conservative heroes from Earth's history. From closest to most distant, the moonlets are Metis (Bush), Adrastea (Fairway), Amalthea (Solano), Thebe (McAllen), Leda (Chung), Himalia (Pinochet), Lysithea (Friedman), Elara (Buckley), Ananke (Nixon), Carme (Kissinger), Pasiphae (Schilling), and Sinope (Garcia). All are tiny, between 5 and 100 kilometers in diameter.

Amalthea (Solano)

The largest of the moonlets, hollow Amalthea is probably the most livable sarcophagus habitat due to the large lake created from its icy core. Living on Solano carries some prestige among Junta citizens. Rumor has it that most of the residents are well-placed RAND think tank personnel, most of whom work on defense projects. A fusion-powered axial light tube illuminates the 30-kilometer diameter central cavern, whose

landscape is patterned after the subdivisions and office parks of an early 21st-century suburb. All buildings have enviroseal ing so that the occasional bouts of environmental sepsis resulting from the poorly regulated interior ecosystem can be purged with toxin bombs. Less fortunate support personnel dwell in the beehive warrens crisscrossing the moonlet's crust between cavern and surface. Like most of Jupiter's moonlets, Amalthea's space crawls with patrol craft and killsats, making approach for unauthorized craft problematic at best. 1.5 million transhumans live on Solano.

Io

Beneath Io's tenuous, patchy atmosphere of volcanic gases and neutral atomic dust lies a barren, grayish yellow, rocky surface coated with a thin frost of sulfur dioxide. Tidal heating caused by gravitational interaction with Jupiter makes Io the most volcanically active body in the system—so active that the meteor cratering found on every other planet and moon is completely absent on Io. Massive volcanic calderas, lakes of molten rock, and geysers of sulfur dot the surface, with eruptions and accompanying seismic activity lasting months or years. Volcanic zones on Io reach surface temperatures of up to 1,500 degrees Kelvin, hotter than any body in the system.

For all that, transhumanity's worst peril on Io is radiation. Ejecta from geysers and volcanoes flow with Jupiter's magnetic field to form a titanic, toroidal flux tube that rotates with Io around the gas giant. Travelers to Io must either use the heaviest radiation shielding available or resleeve into synthetic morphs.

Transhuman activity on Io centers around scientific research and harvesting the volatiles ejected by Io's geysers, particularly sulfur. Bases tend to be modular and mobile due to the ever-changing seismic activity. The Junta's most notorious prison, Maui Patera Rehabilitation Center, is dug into a (mostly) extinct caldera wall north of the equator.

Europa

Europa has no atmosphere and lies within the fearsome magnetosphere of Jupiter, and as such its surface is bombarded with enough radiation for an unshielded transhuman to receive an irrevocably fatal dosage within a few days—much faster when Europa's orbit passes through Jupiter's immense magnetotail. As a result, transhumans on Europa dwell beneath the icy crust, largely in the ocean below, adopting a variety of aquatic and amphibious morphs for survival. The only surface facilities are the heavily-shielded ice elevator heads at Conamara Chaos and several other points through which reactor mass and other crucial supplies can be delivered to the Europans below.

Transhumanity is still exploring and imaging the Europan ocean floor, a task complicated by the hideous pressures at work in these waters, which are ten times as deep as the Earth's oceans. A further surprise awaiting transhumanity was the terrain. The geology of Europa suggested that beneath the ice would be fathomless depths of black water ending at a depth of nearly 500 kilometers in a relatively flat, featureless sea bed. Were Europa a lifeless ball of ice and rock, this would be the case, but over the estimated billion years since the rise of life on Europa, tiny lithoderms (analogs to Earth's coral) have built silicate reefs that rise to within a few hundred meters of the ice crust. It is on these biologically formed mountain tops, home to complex ecosystems, that the Europans have built their habitats.

While based on water-carbon chemistry like life of Terran origin, life on Europa is completely autocthonic, having originated beneath an impenetrable ice sheet that cut off Europa's subsurface ocean completely from outside. This is in marked contrast to Terran life, which many biologists have theorized might be the result of galactic panspermia, the slow diffusion of microbes through the vacuum of space aboard comets or asteroids. As such, the fauna of Europa are of great interest to transhuman bioscience.

Biosciences

Europa's lifeforms, unique perhaps in the universe, are its greatest treasure, and transhumanity's efforts to catalog them are only beginning. The rush to exploit Europan biodivesity puts the Jovian Junta in an uncomfortable situation. While they control space traffic and commerce in the Jovian system, they lack the native talent to take real advantage of knowledge gleaned from Europa. At first, they engaged in hamfisted excise operations aimed at squeezing revenue out of knowledge exports. But once farcasters and egocasters came online below the ice, this type of extortion no longer worked. Now the Jovians have shifted to a two-pronged strategy of levying tariffs on new equipment and people brought down the ice elevators by hypercorps and research collectives, and of holding the entire population of the moon hostage by refusing delivery of key resources like reactor mass and rare elements if protection fees are not paid.

Habitats

Europan habitats take two forms: fortified fishing and farming havens clinging to the spires of the lithodermic reefs, and spherical bubble warrens constructed by boring into the lower reaches of the ice crust and shoring up the hollows created. The latter are the only air-filled spaces beneath the ice. The largest warren is Conamara, at the base of the Conamara Chaos ice elevator. Conamara is surrounded by five nearby reef havens, also considered part of the habitat. The total population is 1.5 million.

Ganymede and Callisto

Nearly as large in size as Luna, but darkly colored and not as heavily cratered, Ganymede and Callisto are very similar worlds. Neither is as dense (nor has as much gravity), as their mantles consist of more ice than iron rock. Both possess abundant volatiles and water (albeit frozen), making them ideal candidates

for habitation. Ganymede, with its differentiated surface of rocky and icy terrain, has an iron core and thus a faint magnetic field. Callisto, the smaller of the two, is composed mostly of icy silicate clays. As on Luna, most cities on Ganymede and Callisto are built below ground to shield them from meteor impacts (and, on Ganymede, from Jupiter's radioactive bombardment).

While within the "protection" of the Jovian Republic, both moons are a patchwork of city-states. Some are full members of the Jovian polity, while others are only tolerated. Ganymede tends to swing more heavily toward the Junta, as its citizens still see the Junta-maintained infrastructure—accurately or not—as necessary in such a hostile environment. Callisto, outside the worst radioactive effects of the Jovian magnetosphere, is an easier place for technoprogressivism to gain a foothold.

Hyoden

The nucleus of this city-state was a research station founded by a coalition of Pacific Rim nations in Callisto's Valhalla region, a massive primordial impact zone where the icy subsurface lies exposed, simplifying extraction of clean water. When the Fall came, Hyoden, which had long faced labor shortages, opened itself to those refugees who could make it to Jupiter. Now Hyoden has two million inhabitants, making it the largest city-state on Callisto and the largest non-Junta state in the Jovian system. Hyoden is itself heavily militarized, as the tendency of the local authorities to turn a blind eye toward operatives using their territory for forays against the Junta makes for uneasy relations with their powerful neighbor.

Liberty

Situated along the southern edge of the vast, rocky plain called Galileo Regio, almost on Ganymede's equator, Liberty (population 7 million) is the Junta's largest planetary city-state. It is closely tied to Liberty Station, a major shipyard and defense installation in geosynchronous orbit. Major industries include shipbuilding, space construction, fabrication, and security products and services. The Castle, the central security network point from which all surveillance data collected in the Junta is monitored and processes, is rumored to be in or near Liberty. Liberty is mostly underground, but it boasts a number of parks in armored surface domes. If one were to spend enough time topside, one would see the deceleration torches of incoming metal asteroids from the belt bound for the shipyards lighting up the sky several times a day.

The Trojans (Jovian Trojan and Greek Asteroids)

The Trojans and Greeks are two 600 million-kilometer-long arcs of scattered, icy rock asteroids sharing the orbit of Jupiter. They orbit in the stable L4 and L5 points sixty degrees ahead of and behind the giant planet. Mars and Neptune also have Trojan asteroids, but when someone speaks of, "the Trojans," they're normally talking about the Jovian groups. In the early days, L4 asteroids (ahead of Jupiter) are named after Greek heroes of Homer's Iliad; L5 asteroids (trailing Jupiter) are named after heroes of Troy. Asteroids discovered more recently break the old convention, as there are far more objects in the Trojans than there were characters in the Iliad.

Politically, the Trojans and Greeks may be thought of as a collection of sometimes overlapping neighborhoods whose inhabitants tend to group around particular cultures, factions, and sometimes languages. A neighborhood in the Trojans might span anywhere from 250,000 to 2 million kilometers at its widest point. Within neighborhoods, almost everyone knows one other. Because of the wide dispersion of resources, Trojan habitats tend to be small—from one to two thousand people—and built largely along scum barge or cluster lines (although it is never advisable to refer to someone's habitat as a scum barge unless they refer to it that way first).

Resources and Economics

Although the sheer size of the two regions means a lot of cultural diversity, anarcho-collectivism is a powerful meme here and the reputation economy is prevalent. On one hand, neighborhoods, habitats, and even individuals are expected to be self-sufficient. Unlike the denser Main Belt, the Trojans lack the safety net provided by pervasive transhuman presence. The ideal Trojan or Greek is a Neo-Renaissance being, incredibly competent in a wide variety of fields. A person who can't maneuver in zero g; maintain their gear, ship, and hab; and navigate between rocks and habitats can have a tough time surviving. At the same time, a spirit of cooperation prevails. Bartering services or even gifting them to gain reputation is common. Everyone appreciates a specialist, as long as they're not specialized at the expense of baseline self-sufficiency.

Prospecting and salvage are major activities in the Trojans, where metals and rare elements are scarce and settlers don't usually have the economic muscle to import raw materials from elsewhere. However, the Trojans are rich in silicates, volatiles, and carbonaceous materials. Necessity has led to many innovations in materials science. Beyond the simple problem of raw materials, the widely scattered habitats of the Trojans have to be wildly inventive on many levels to retain their independence. New robot, morph, and vehicle designs appear all the time, enabling an unusual array of business and leisure activities, like whaling (organizing a flash flotilla to rapidly mine asteroids and comets with erratic orbits as they pass near the Trojans), mekking (simulated—or sometimes real—combat between robotic suits or synthetic morphs on uninhabited asteroids with interesting terrain), and shrining (stealthing up on another habitat and resurfacing it with nanosculpters to create an art object—mostly a scum barge pastime).

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Locus

Locus is the largest cluster habitat ever formed. It is still growing, with over one million inhabitants in the habitat proper and another million in the nearby suburbs of scum barges and small asteroid stations. Locus is located in Cassandra's Reach, one of the denser regions in the L5 Trojans. The habitat is positioned at the center of mass around which the two asteroids making up the binary object Patroclus orbit one another. Both Patroclus asteroids are themselves inhabited and hold defense installations, mines, and refineries.

The design of Locus is very similar to the much smaller Lot 49, but Locus is eleven kilometers in diameter and somewhat irregular in shape, as growth along some spars is faster than others. A quarter of its total volume is cut out in a roughly conical shape all the way to the Amoeba, an immense, softly glowing sculpture at the center of the habitat. Some differences from smaller Trojan clusters are dictated by Locus's size. The immense structural spars radiating from the habitat's center are hollow, with arterial floatways and elevator-trams running inside of them. Lesser spars run between the arterial spars, providing more mooring points for modules. Adjacent to each arterial spar are wide "roads" leading to the edge of the habitat so that modules can maneuver out if the owners decide to leave.

Beneath the shimmering mesh stretched over the geodesic frame to keep out micro-asteroids, tens of thousands of small ships and habitat modules moored along the spars pulse with an ever-changing array of lights. Habitat modules and large ships are asked to stay out of the conical empty space. This space teems with small craft and people on thrustpacks or voidscooters as they cross the habitat, play zero-g games, or visit the free-floating spimes and sculptures that dot the area. The Amoeba, which periodically changes color and shape based on its resident AI's programming (often it looks like some sort of animal), serves as a central reference point for navigation. When someone gives the address for a module, it is as a point on a spherical coordinate system with the Amoeba at its center. Large ships and shuttles dock on the outer surface of the habitat, at the terminal points of the arterial spars.

Locus was founded by a joint anarchist-argonaut venture and was the first major stronghold for the autonomist factions. Unlike Extropia, which has the tacit blessing of the Planetary Consortium and encourages the presence of security and insurance companies, Locus runs on a pure reputation economy. Security, maintenance, expansion, and defense of the habitat are all performed by volunteers. Inhabitants interested in security monitor incoming ships and operate crowdsourcing systems that dispatch volunteers to perform WMD scans on new arrivals. Ships that won't submit to a scan are asked to leave. If they don't, anyone who's designed a cool new weapons system recently is welcome to take a shot.

Locus is one focal point in a cold war between the hypercorp-aligned inner system powers and a loose coalition of outer system interests. While saboteurs from the Planetary Consortium and other hostile entities can and do occasionally cause trouble on Locus, the hypercorps are currently unwilling to attempt a direct military attack on the habitat. The first time they tried, the Planetary Consortium and the Martian city-state of Valles-New Shanghai sent a small expeditionary fleet. The interlopers were caught completely off-guard by a fierce and well-coordinated defense. Six months later, they sent a much larger fleet. Help arrived from elsewhere in the Trojans and Greeks and from Titan, whose citizens took a dim view of any Planetary Consortium expansion beyond the belt. The Titanians now maintain a permanent base near Locus. Rumor has it they agreed to a mutual defense pact with one of Locus' citizens, possibly the famous programmer-armsman Teilhard Liu.

"Welcome to Locus. You voluntarily assume the risk of organic damage or mental trauma by mooring here. You must bring or be capable of acquiring enough food, H_2O, oxygen, and shelter to survive for the duration of your stay in a harsh, asteroid-rich environment. Weapons of mass destruction are prohibited. Further guidelines for coexisting with your fellow entities are in the habitat survival guide. You and only you are responsible for yourself—learn to love it!"

—Locus Immigration AR broadcast

"You have chosen the habitat Locus in the L5 Trojans as your destination, using the private carrier Atsuko van Vogt as your receptor. ComEx corporate policy requires us to inform you that the destination and carrier you have selected are unregistered and possibly unsafe. ComEx takes no responsibility for the continuity of your consciousness upon arrival. You assume any and all risks for travel to this point, including theft of forks or deletion. ComEx will include a permanent record of travel with this carrier on your file. Would you like to continue?"

—ComEx legal disclaimer

"The ComEx disclaimer? Yes, yes … Listen: my neighbor three doors toward the Amoeba from here is a physicist. She has a box that generates microsingularities in her lab. If people along my spar found out I'd stolen a fork of someone, they'd pop my stack with a grapefruit knife and throw it in there. That's what we call, 'accountability.' See if you get the same from ComEx."

—Atsuko van Vogt

Lot 49

Lot 49 is moored to the small asteroid 28349 Pynchon in the amorphous Vonarburg-Shadyside neighborhood, toward the center of the L4 Greeks. Vonarburg-Shadyside is named after two rocks that roughly delimit its 500,000-kilometer length along the arc of Jupiter's orbit. Neighboring habitats within 100,000 kilometers (with populations) include Craftsbury (450), Greenview (28), and Blackhawk (1020). With a population of 400, this station is more or less typical of the Trojans in terms of layout.

From the outside, Lot 49 looks like a shiny, meshed-over geodesic sphere, 800 meters in diameter, with numerous protruding instrument spars and some triangles left open to space so that shuttles can pass through. The mooring to the asteroid is temporary in case a potential collision is detected. Inside, a central utility module with a communal reactor, factories, and machine bay is surrounded by evenly spaced but irregularly shaped habitat modules in a riot of colors and lighting schemes. Structural spars and floatways connect everything. One entire spar is given over to a rotating cylindrical module that generates about 0.7 g and contains medical, cloning, resleeving, and darknet egocasting facilities.

Lot 49's population and most of their neighbors in Vonarburg-Shadyside tend to align with the scum and anarchist factions and speak a mixture of English, Portuguese, and Thai. Lot 49 is in a densely inhabited part of the Greeks, placing it near a crossroads. Main economic activities include shuttle design, whaling, and ferrying people and goods around the region.

Saturn

The second largest planet in the system is a much more favorable habitat for transhumans than Jupiter. Saturn's lower gravity and milder magnetosphere are a boon to gas mining operations, and for resource-hungry habs, the Rings are a feast (literally, in the case of the new Hamilton cylinder type habitats). Hypercorps have a presence here, but any major expansion by the Planetary Consortium is kept in check by the anarchist stations of the Rings and the technosocialist Commonwealth of Titan.

Because Saturn is so distant from the Sun, solar power generation is extremely inefficient. Growing photosynthetic plants with sunlight is impossible without large arrays of mirrors to focus the light. The abundance of water and volatiles makes the rings ideal for both scum barges and Hamilton cylinders. Gas mining is vital to the survival of almost every habitat and moon settlement in the Saturnian system, so habitats located further out from the planet that wish to be self-sufficient almost always maintain their own gas mining stations close to the planet. Security for these installations and the atmospheric skimmers and tankers they dispatch is tight, and it is never advisable to approach one unannounced.

Resources and Economics

Gas mining on Saturn supplies thirty percent of the system's reactor mass. This role is expected to grow as Helium-3 deposits in the Lunar regolith become less accessible. For ships traveling to the far reaches of the outer system, Saturn is an important alternative to using Jupiter for gravity assists. Less restrictive than Jovian regimes and richer in resources than the Trojans, Circumsaturnine habs and settlements are important innovators in habitat design and cultural organization. Since the discovery of the Pandora Gates, the Titanian Commonwealth is the only entity actively pursuing interstellar exploration through conventional means.

The Rings and Classical Minor Moons

Saturn's rings are made up of countless small icy objects, most of which range in size from dust specks to boulders 10 meters in diameter. The rings are designated by the letters "A" through "F" in the order in which they were discovered. They vary in thickness between 100 and 1000 meters and in width from 20,000 kilometers down to just meters. In places there are gaps between rings. The widest, the Cassini division, is 4,000 kilometers across.

Gate Expedition Report 901127

Gate Code Setting: [Encrypted]
Gatekeeper Corporation Eyes Only

Preliminary drone and sensor reports seemed to indicate the gate's exoplanet environs were underground in a cavern formed of carbonaceous rock with a nitrogen dioxide atmosphere. There were no signs of life or sentient activity. A squad of gatecrashers was sent through, guided by an exploration drone, with a communication link back to the gate.

Approximately one hour after the team moved into the tunnels, consistent communication was lost due to electromagnetic interference. At this point they had reported nothing more notable than moving just over a kilometer through a warren of tunnels.

The team was not heard from again.

Two hours after contact was lost, a tethered search and rescue drone was deployed. Following the gatecrashers' breadcrumb trail, near the limits of its tether range the drone came upon what appeared to be a severed hand in a vacsuit glove. DNA testing did not identify the hand as belonging to any members of the team, however, nor did it match any other database queries. The drone was detached from its tether to search further, but shortly after sensors recorded some type of seismic event, and communication with the drone was also lost.

The gate was kept active for 8 more hours—the duration of the contract—with no sign of activity. The gate was then closed, the team reported as lost/unretrievable, and the gate settings were recorded with an orange flag. ♣

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Saturn has over 60 satellites, a number that jumps into the hundreds if one includes the uncounted objects less than a kilometer across orbiting in the A ring. Most of Saturn's moons are small, rocky, ice objects less than 100 kilometers in diameter. The smallest of the classical moons, Pan, is only 10 kilometers across. The first eight moons, from Enceladus inward, lie within the ring system. Atlas, at the edge of the A ring, and Prometheus and Pandora, which flank the thin F ring, are known as the Shepherd Moons. Several of the moonlets occupy Lagrange points relative to larger moons. Telesto and Calypso share the orbit of much larger Tethys, while Helene trails another large moon, Dione.

Atlas (Volkograad)

Volkov, a Slavic energy cartel, controls this tiny moon. Volkograad is a beehive habitat with about 50,000 residents. Much of the moon is given over to skimming, refining, and shipping infrastructure. A cloud of wreckage trailing the moonlet by about 100,000 kilometers serves as a reminder of the Atlas Incident, a brief but massively destructive battle that erupted when Fa Jing attempted a buyout of the moon. Tinkers from Phelan's Recourse still salvage the floating derelicts regularly.

Dione (Thoroughgood)

Dione's main settlement is Thoroughgood (population 350,000), a hybrid beehive and orbital cluster habitat set on a plateau amid a dramatic range of ice cliffs. Dione hosts the Long Array, a 150 kilometer-high communications spar ascending from the surface settlement to an orbital station that acts as a counterweight. The Long Array's sheer size is something of a publicity stunt, as the bulk of its capacity goes unused. However, it drew enough attention to make Thoroughgood a major communications hub for the outer system, and thus a place where hypercorp, anarchist, and other factional interests meet. Dione shares its orbit with Helene, a tiny, rocky moon at its L4 point, and Polydeuces, an even smaller body that trails it at the L5 point.

Enceladus (Profunda)

Rich in organic compounds, Enceladus is a biochemist's playground. Profunda (population 850,000) is the major settlement, a beehive dug into the moon's surface capped by domed parks and clusters of sleek, translucent minarets—well protected from collisions by an aggressive satellite defense network. The lower levels, stretching deep into Enceladus' icy silicate mantle, include a prospecting operation that extracts carbonaceous soils in search of exotic compounds. Another deep section has been converted into a kilometers-wide, reactor-heated primordial sea, part of a long-term experiment into the origins of life supported jointly by Titanian academics and a collective of Enceladian biochemists.

Profunda is run along anarcho-capitalist lines. Thanks to the rich supply of organic chemicals, its upper reaches are home to many of the outer system's best known morph designers. The Enceladian Glitter Bloc is said to have as much influence over body styles as the Lunar fashion houses do over what people wear.

Epimethus and Janus (Twelve Commons)

These twin small, icy moonlets share virtually the same path around Saturn, orbiting within 50 kilometers of each other. Set between the F and G Rings, the moonlets form the center of Twelve Commons, a neighborhood of small and mid-size habitats arranged in a flat cloud about 20,000 kilometers in radius. About six million people live in Twelve Commons. Habitats in Twelve Commons range in size from **Dang Fish Echo,** a tin can hab housing about 60 eccentric aquaculturists, to **Janus Common,** a beehive occupying much of Janus with a population of 900,000. Some of the habitats in Twelve Commons feature very unusual designs, such as **Nguyen's Compact** (population 80,000), a variant Cole habitat in the G ring where an asteroid was heated and large amounts of steam were blown through it to produce a series of interconnected bubbles between five and three hundred meters in diameter. In effect, the interior of the colony is like a solidified foam or Swiss cheese with no obvious up or down. Without an ecto or basic implant to provide location and navigation information, navigating through this maze-like habitat would be exceedingly difficult.

The habitats of Twelve Commons organize themselves primarily along open source anarcho-syndicalist lines, with work groups and research pods acting as the basic political unit.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

GATEWAY (PANDORA)

The Gateway settlement, on Saturn's outer shepherd moon Pandora, holds the first publicly known wormhole gate. The Gatekeeper Corporation keeps the gate open as a means of exploration and scientific investigation for all factions and powers. Gatekeeper was originally a Titanian microcorp but is now independent. The Commonwealth of Titan still holds a major stake in it, though not a controlling interest. Granting autonomy to Gatekeeper Corporation was a diplomatic maneuver made in response to Planetary Consortium claims that the Titanians sought hegemony in the outer system. So far, Titan's neighbors are buying it, even if the Planetary Consortium doesn't.

HYPERION

With its chaotic, virtually unpredictable rotation, Hyperion is a dangerous place to land ships. It remains uninhabited.

IAPETUS

Iapetus is one of Saturn's larger icy moons and once boasted a population of 200,000 living in the dense warrens of Analect, its main settlement. Probably because it is one of the few large moons of Saturn that contains sizable deposits of silicates and minerals in addition to ice, Iapetus was a target of the TITANs during the Fall. After enslaving a tenth of the populace as worker drones and using the rest as seed stock for tissue cultures to feed their fellows, the TITANs began to build what appears to have been a matrioshka brain. Iapetus now occupies twice the volume it once did, the ice and silicate of the planet's outer layers having been reworked into a delicate lattice of circuitry millions of layers deep.

Strangely, the project simply stalled at some point prior to completion. Speculation has it that the controlling intelligence was either destroyed by an unknown outside force or devoured itself in a fit of compuational ecstasy. Whatever the case, the drones simply stopped working and died and the moon's automated defense grid went dead, leaving a strangely beautiful but lifeless machine behind to slowly decay from meteor impacts and gravitational stress. Several research teams now reside in small orbital stations, quarreling over the scraps. Rumor has it that a number of researchers trying to understand the matrioshka circuitry have lost their minds in the process, perhaps by some mechanism akin to a basilisk hack. It is also believed that some of the moon's internal defenses remain active. If anyone has plumbed the interior and come back, they're not talking about it.

MEATHAB

The full name of this unique habitat is Turn Yourself Into a Giant Mass of Space Meat for Art!, and as the name implies, 90% of the habitat's structure consists of fast-cultured vat bacon, battened on the abundant resources of the ring system. MeatHab started out as someone's art morph, but then, against all expectations, squatters moved in. MeatHab now has a population of 500. Similar to a Hamilton cylinder, the kilometer-long habitat harvests and processes ring material to grow itself. The outer surface is frozen flesh ten meters thick whose surface resembles a cross between a tree trunk and flank steak. Past the axial space dock is a warren of veinous, skin-covered corridors lit by bioluminescent panels and maintained by small, reptilian symbiotes that eat away dead skin and may have other immune functions as well. Gravity inside is 0.5 g.

The nameless biodesigner who created the place—and who may or may not still inhabit the gigantic morph—was a genius. Although the habitat is not by any stretch of the imagination a pleasant locale, it appears healthy. Its full workings are not understood, and the inhabitants range from extreme flesh freaks who are fans of the artist to serious biodesigners studying the place to learn more about its construction.

MIMAS (HARMONIOUS ANARCHY)

Led by legendary Chinese dissident poet Hao Lin Ngai, Harmonious Anarchy broke from the Fa Jing cartel during the tumultuous years prior to the Fall. Hao sought to create a society in the spirit of the ancient Taoist state of Great Perfection that existed in Szechuan 1,700 years earlier—with considerable updates from modern thought. Harmonious Anarchy is an Extropian mutualist society heavily involved in software engineering, logistics, and relocation of metallic asteroids to the outer system. Most of Mimas is a very low-g beehive arranged into Black, Red, Yellow, Green, and White neighborhoods, based on the five classical directions of Chinese mythology. Each color boasts an ornate central cavern, with extended families living in radiating subwarrens. While adhering to mutalist economic principles, Harmonious Anarchy simultaneously takes a traditional Chinese approach to social organization, with family at its core.

NORSE, INUIT, AND GALLIC MOONLETS

In addition to the classical satellites described here, three groups of small objects unknown to early astronomers orbit the planet. These moonlets are designated as the Inuit, Gallic, and Norse groups. Because these moonlets were still little explored by the time of the Fall, most of them remain sparsely populated. With a few exceptions, inhabitants of the moonlets are generally people who want to be left alone. The exceptions are Skathi and Abramsen (formerly S/2007 S 2), which, along with Phoebe, were captured and moved into Titan's orbit, where they serve as defense installations.

PAN (IZULU)

Volkograad's closest competitor is this anarcho-capitalist outfit, most of whose founders were South African. iZulu has a somewhat lower capacity than Volkograad but will ship reactor mass to unusual

locations like the Trojans and the Kuiper Belt. iZulu is a very crowded beehive with nearly 400,000 inhabitants and an unusually large number of infugees. The nations of sub-Saharan Africa were only starting to achieve widespread 20th century-levels of prosperity in the late 21st, and so they had the lowest capacity to physically evacuate their citizens during the Fall of any region on Earth. iZulu and a handful of other habitats with roots in Africa thus have high infomorph populations and millions of people in dead storage.

Phelan's Recourse

Phelan's Recourse (usually just called "Phelan's" by inhabitants) is the largest nomadic settlement in the system, with a population estimated around 250,000. Phelan's is a swarm of some 10,000 small craft and tin can habitat modules that orbits Saturn along a highly elliptical path somewhat inclined to the plane of the ecliptic. The swarm's orbit is calculated to maximize the number of encounters with near moons and stations, providing a six to eight hour window in which craft can leave the swarm for trade. Phelan's Recourse passes through the rings once a month, allowing craft to resupply with water and volatiles.

Phelan's accepts all comers. One could meet just about anyone here, from the government in exile of East Timor to Hasidim from Brooklyn. The core of the swarm is the Stills, a fusion-illuminated grain farm and distillery operated by an allegedly reformed gang of Irish travelers who conned their way off Earth a few weeks before the Fall and escaped to the outer system. The Stills produce Phelan's Ma, the most sought-after whiskey in the system, and Phelan's Da, possibly the worst beer ever made. Despite the Phelans' protestations of legitimacy, the criminal element is heavily represented here. The swarm represents an important link in red and gray market supply chains.

Prometheus (Marseilles)

Marseilles (population 80,000) is a beehive habitat operated by the Titanians. It is rumored to harbor an antimatter factory, a theory supported by the large number of skimmers that arrive from the surface relative to the number of tankers that leave.

Rhea (Kronos Cluster)

At a 764 kilometer diameter, Rhea is Saturn's second largest moon. Composed almost entirely of ice, Rhea's surface is sparsely inhabited, but a population of over 800,000 dwells in Kronos Cluster, a major habitat in orbit. Kronos Cluster's mass microfactured violet spherical modules make it look like an immense, irregular bunch of grapes suspended in space, an impression added to by the winding space dock (nicknamed the Vine) extending from the wider end. Within the mass of habitat modules, the Vine branches out in all directions, forming massive central arteries and twisting side passages. These can be traversed by pushing off hand and toeholds on the walls, or by catching hold of fast-moving grab loops that move along "fast lanes" in the walls of major floatways.

Nearly five kilometers long and three wide, Kronos has major problems with crowding and infrastructure that have kept it from growing to the same size as Locus. The designers simply did not plan for the size the place might reach, and as a result another 150,000 people live in suburbs of tin can habs and scum barges in the space around the habitat.

Kronos can be an extremely dangerous place. Insurance companies don't like operating here, and the habitat is a patchwork of criminal and anarchist neighborhoods. Anarchist neighborhoods are generally heavily armed and safe, but a trip from an anarchist holding to the spaceport is best done with a group of well-armed friends. Criminal neighborhoods are only safe if you're in the neighborhood's controlling gang, and even then conflicts flare up regularly.

The situation is exacerbated by the Kronos Port Authority, a junta of ultimates who operate security for the spaceport. Originally an Extropian hypercorp, the KPA fell into the hands of the ultimates when they decided that they could profit more directly by owning the company outright than by working as hired muscle. They violently ousted the original management and now use indentures in worker pods to maintain the port. This situation is tolerated by the local crime bosses and loathed by the mostly-anarchist autonomist citizens, but so far no one is able to challenge the KPA, which enforces use of the port rather than any other mooring point with kill-sats and artillery.

Tethys (Godwinhead)

Composed almost entirely of ice, Tethys is one of Saturn's larger moons and the site of Ithaca Chasma, a 2,000-kilometer long valley covering three-quarters of Tethys's circumference. Fifteen years ago, prospectors from an ethnically Indo-British autonomist collective called the Rioters touched down on Godwin Head, a projection in the chasm wall so named because it resembles a headland projecting out into the sea. Instruments on their ship, the Caleb Williams, had detected what looked like mineral deposits in the ice, rare on Tethys. What they found instead were relics thrust to the surface by a geological event eons earlier, the remains of primordial life that became extinct millions of years ago when Tethys cooled and its subsurface ocean froze over.

Godwinhead is now a dense, efficient settlement of 200,000 built into the five kilometer high canyon walls. The central point of the town is the Caleb Williams, which has been towed back into a sheltering cavern in the wall and converted into a communal workshop and town hall. The face of the valley wall is honeycombed with excavated ice caves hosting habitat modules, connected by conduits to a communal utility grid. The trusswork and cabling for the utility system is also the public transit system, easily traversed in the minute Tethyan gravity. The unofficial

mascot of Godwinhead is the Tethyan Flatworm, a two millimeter-long translucent worm that represented the pinnacle of Tethyan evolution. A large number of the inhabitants are involved in biosciences, xenopaleontology, and prospecting for frozen lifeforms.

Tethys shares its orbit with its Trojan moons Telesto and Calypso, both of which are small and sparsely populated.

TITAN

Saturn's largest moon is shrouded in a permanent orange atmospheric haze, hellishly cold (averaging 180 degrees below), and whipped by winds produced by tidal forces four times stronger than those influencing the Earth's climate. On its face, it appears even less hospitable than the airless balls of ice and rock comprising every world between Titan and Mars. The meager sunlight reaching its surface is insufficient to grow any but the hardiest plants, the mostly-nitrogen atmosphere is dangerously toxic, and the surface is dotted with lakes and seas of liquid methane. In spite of all this, abundant hydrocarbons, a thick atmosphere, and diverse chemistry make Titan one of the few worlds in the system where colonists may rely entirely on local resources. Titan's population is now over 60 million.

Social money and the microcorp system have led to some spectacular gains and failures. On the up side, Titan's civil resleeving industry produces more morphs than Mars and Luna combined. Massive infrastructure programs have provided enough space for 60 million people to live comfortably on a hostile world. The Large Collider, the biggest particle accelerator ever produced, in polar orbit, enables physics experiments that can be performed nowhere else in the system. And two years ago, Titan dispatched the first conventional interstellar probe, the Aubade. It will reach Proxima Centauri in just under 20 years.

On the down side, Titan's "body for every mind" law burdens the civic resleeving system with a lot of people who no one would ever have bothered resleeving otherwise. The failure of the Scoop project, an extremely costly attempt to build a pipeline from Saturn's surface to low orbit, allowing massive gas extraction without costly atmospheric skimmer operations, stymied Titan's ambitions to become a major antimatter producer. Titan does produce antimatter, but on a much smaller scale than was envisioned when the Scoop project began.

Commonly spoken languages on Titan include Norsk, Francais, Deutqch, Mandarin, Svensk, Dansk, and Suomi. Most citizens inhabit hazers, a tall, fine-boned morph with very similar characteristics to the Martian ruster. Parapelagia for gliding and flying in the light Titanian gravity are a common biomod. Titanians do three years of compulsory civil service at the age of majority, with an emphasis on military and security forces except for conscientious objecters. Every citizen who has done military service is part of the militia and has an assault weapon in their home.

AARHUS

Located near Titan's south pole on the shores of Ontario Lacus, a wide, shallow sea of liquid methane, Aarhus (population five million) was the first site of human habitation on Titan, chosen for its proximity to abundant hydrocarbons. The city is the physical hub of Titan Autonomous University (TAU) and hosts numerous other academic institutions, most notably Titan Tech, a major engineering school. Unlike Martian universities, which have few physical campus buildings, TAU and other Titanian schools draw many of their students from the widely scattered habitats of the outer system, where delays in radio communication make distance learning ineffective. Fully 20% of Aarhus's population are students, many of them offwordlers.

Aarhus's layout is typical of Titanian cities. Three central domes are surrounded by numerous smaller structures, including lesser domes, fusion plants, and industrial outbuildings, the most massive of which is the now-abandoned methane utility plant on the lake shore. The dome interiors are hung with lighting rods and heavily built up with tall, narrow buildings, most of which have upper decks where hazers on the wing and pedal-powered microlights can land. Exterior structures usually have outer walls built of ice for shielding and structural support with internal walls extruded from local silicates. Many buildings are a rich azure or other shades of blue for contrast with the ever-present orange glow of the Titanian sky.

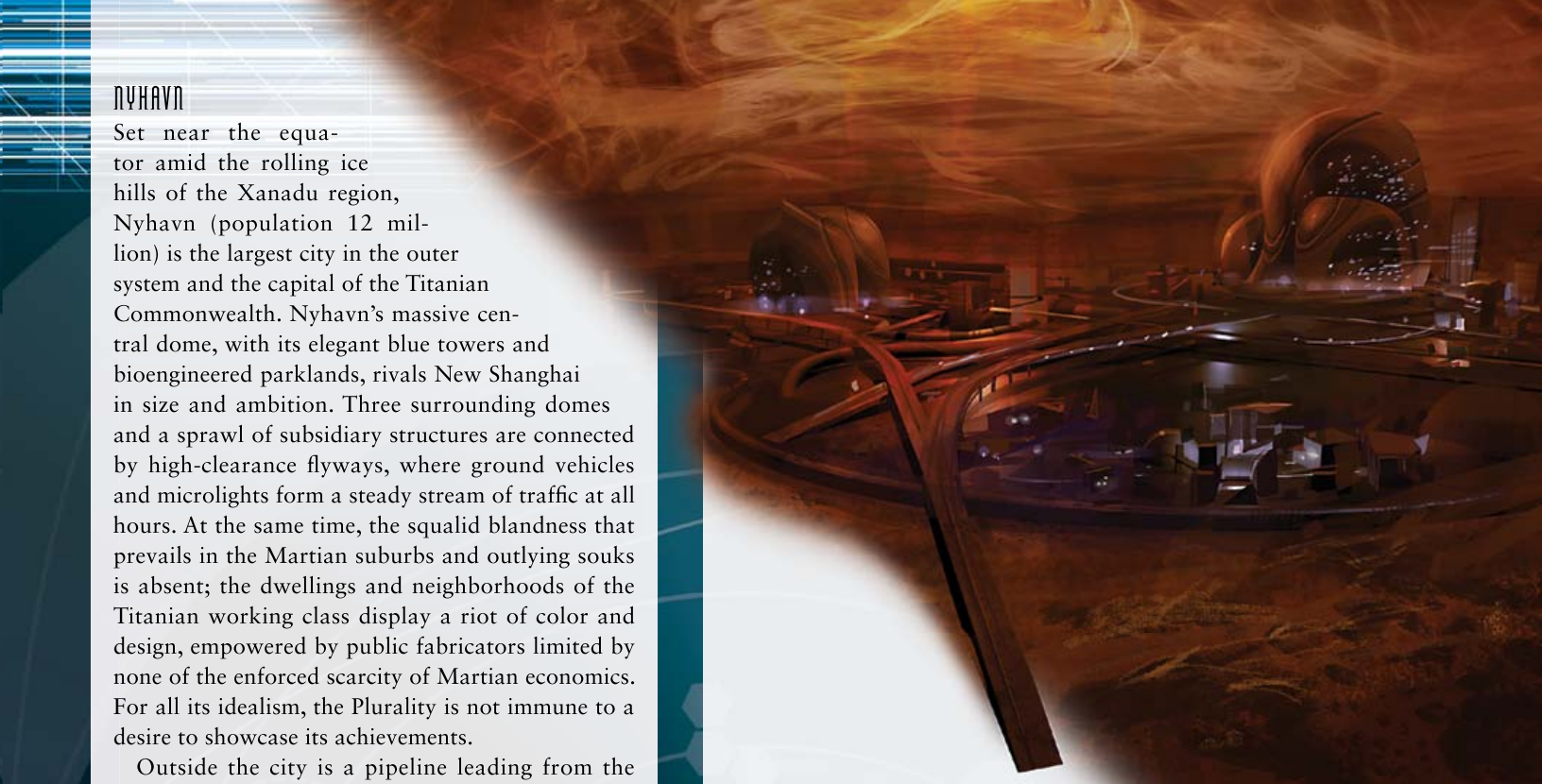
Unlike most Titanian cities, Aarhus relies primarily on fusion power. Aarhus is the center of Titan's native preservationist movement, which opposes inefficient use of native hydrocarbon resources due to possible long term effects on Titan's climate.

NEW QUEBEC

New Quebec lies on a plain in the Aaru region surrounded by endless rippling dunes shaped by Titan's powerful winds. The region's diverse chemical resources supply the colossal nurseries that have made New Quebec the system's largest single producer of morphs.

The city is 50 kilometers from Montmorency Lacus, a 20 kilometer-wide crater lake of liquid ethane and methane. Originally thought to be an impact crater, rare on Titan, geological studies later showed it to be the collapsed remains of an extinct cryovolcano. Situated in a rainy area, the lacus slowly drains over the crater lip at Montmorency Cascade, a 200 meter carbonfall that empties into a series of alluvial channels from which the Quebecoise pump its output for fuel.

The St. Catherine Tong, the most dangerous native Titanian mob, is based in New Quebec. Titanian law is generally very permissive regarding individual freedoms, so the vices this gang trades in are of the blackest: snuff pods, stolen alpha forks, and nanoweaponry. A ready supply of fresh morphs bought from corrupt microcorp nursery administrators further fuels their rackets. The Tong is extremely violent and a major embarrassment to Commonwealth security forces.



Nyhavn

Set near the equator amid the rolling ice hills of the Xanadu region, Nyhavn (population 12 million) is the largest city in the outer system and the capital of the Titanian Commonwealth. Nyhavn's massive central dome, with its elegant blue towers and bioengineered parklands, rivals New Shanghai in size and ambition. Three surrounding domes and a sprawl of subsidiary structures are connected by high-clearance flyways, where ground vehicles and microlights form a steady stream of traffic at all hours. At the same time, the squalid blandness that prevails in the Martian suburbs and outlying souks is absent; the dwellings and neighborhoods of the Titanian working class display a riot of color and design, empowered by public fabricators limited by none of the enforced scarcity of Martian economics. For all its idealism, the Plurality is not immune to a desire to showcase its achievements.

Outside the city is a pipeline leading from the vast Tyska Lacus, 100 kilometers distant. Commonwealth Skyport, Titan's principal spaceport, offers quick access to Commonwealth Hub, the Titan system's long-haul space dock, located in geostationary orbit above the city. The surrounding countryside is dotted with smaller settlements connected to Nyhavn by trains and a well-developed network of surface roads.

Nyhavn is a major media center, with daily life closely attentive to the debates and decisions of the Plurality. At the same time, it is a cosmopolitan place, where Titan's microcorp movers rub shoulders with visiting anarchist traders and (less commonly) legations from the inner system. There is an active underworld, despite the efforts of security forces, with the local St. Catherine Tong engaged in continual low-intensity warfare with triads from throughout the system.

Phoebe, Skathi, and Abramsen

After the conflict at Locus, the Plurality became embroiled in a hot debate regarding the dangers of hypercorp adventurism in the outer system. It was generally felt that the Planetary Consortium hoped to keep the outer system in a position similar to where the United States kept Latin America by meddling in its affairs throughout the nineteenth and twentieth centuries, and that the only counter to this was a show of force. Titan's thick atmospheric haze makes ground-based space defense systems considerably less effective than on other worlds, but satellites and space platforms were too vulnerable to serve as command and control centers.

The solution was to capture three of Saturn's small retrograde moons—Phoebe, Skathi, and Abramsen (once designated S/2007 S 2, now renamed after a pioneering Titanian economist). Phoebe is the largest of the three objects. The other two were maneuvered into the system's L4 and L5 points. The calculations required to relocate these bodies were painstaking, and the energy expenditure tremendous, but all three now serve as major components of Titan's orbital defense grid. Whether the system created thereby is impregnable has yet to be tested.

Uranus

Once thought of as gas giants like Saturn and Jupiter, Uranus and Neptune differ from the larger planets in that they contain large amounts of water ice, methane, and ammonia and have rocky cores at their centers. This region of the system is sparsely populated. Uranus orbits at a distance 10 AU beyond the orbit of Saturn, 20 times the distance of the Earth from the sun.

Uranus, the coldest planet in the solar system, is a blue-green sphere of ice and gas. Seen from afar, it is virtually featureless compared to Saturn and Jupiter, but up close subtle cloud formations and a tenuous ring system may be observed. Probably due to a collision with an Earth-sized world when the solar system was young, Uranus rotates on its side, such that one pole faces the sun for 42 years at a stretch, and its moons orbit at a sharp angle to the solar ecliptic.

At the time of *Eclipse Phase,* Uranus's south pole is experiencing its south polar mid-spring, during which thick methane clouds darken the polar atmosphere. It may be the unusual tilt of its axis and the accompanying strange seasonal weather that give rise to the unconfirmed rumor that the alien traders called the Factors have created a settlement hidden in Uranus's atmosphere.

Chat Noir and Fissure Gate

Located on Oberon, this is the Uranian system's primary long haul spaceport, with a permanent population of 8,000. Chat Noir has fairly advanced egocasting, resleeving, and manufacturing facilities for a frontier outpost and is operated by several collectives of anarchists. The reason for all the infrastructure is Fissure Gate, the only Pandora Gate in anarchist hands (despite several Planetary Consortium expeditions to wrest control of it).

Fissure Gate was discovered by a prospecting expedition from Chat Noir, then a tiny outpost. Seeking deposits of the useful carbonaceous ices that make up about 20% of Oberon's mass, they instead chanced upon subsurface radio emissions near the foot of Mt. Hippolyta. After using triangulating the source, the prospectors landed and used subsurface imaging gear. What they got back was a blurry image of a rock fissure containing an ambiguous mass of mixed density and an extremely dense, possibly metallic object with a shape too regular to be anything but a structure or large artifact—all under 500 meters of ages-old frozen cryovolcanic outflow. The gate at Pandora was already publicly known at this time, so the prospectors drilled down, suspecting they'd found an alien artifact. They were not to be disappointed, although the discovery yielded gruesome salvage: the barely recognizable corpses of eleven gatecrashers.

Why and how the Fissure Gate was erected under the ice remains a complete mystery. At some recent point, however, it was completely buried, with only a thin pocket of space between it and the surrounding ice. When the eleven emerged, buried in an airless space beneath 500 meters of ice, there was barely room to move, let alone escape—but the gate wouldn't let them back through. Several of the crew had recoverable cortical stacks. This lucky handful are now prominent citizens of Chat Noir, but none plan to resume gatecrashing as a career.

The Fissure Gate remains in anarchist hands, operated and defended by the Love and Rage Collective. The gate is made available to almost anyone unless their rep score is tanked or they are pursuing commercial interests (ruling out most hypercorps). Support for gatecrashers is minimal—traverse the threshold at your own risk. Any discoveries made via this gate, however, must be shared for the collective good of transhumanity.

Titania and Oberon

Uranus's two largest moons are sparsely populated, with only about 10,000 transhumans living on each body. Most stations are mixed dome and beehive settlements and range from hypercorp communications and research outposts to autonomist freeholds. The pair are more chemically complex than most moons in the outer system, consisting of about 30% rock, 20% methane and similar carbonaceous ices, and 50% water. Titania is home to a spectacular canyon that rivals the Martian Valles Marineris. Several settlements on Titania cater to tourists from the inner system and the gas giants, who visit for rocketing, mekking, and other sports in the canyon.

Xiphos

One of two major strongholds of the ultimates, Xiphos is a Hamilton cylinder orbiting in the Uranian ring system. Though most of the tech underlying Hamilton cylinders is open source, the station's frighteningly efficient weapon systems are not. Rumor has it the ultimates traded some major favors to Gorgon Defense Systems in the process of building this station. Where Aspis, the ultimates' inner system habitat, is a relatively open place, used by the Ultimates for contact with potential mercenary clients, Xiphos is off limits to anyone not of this faction. The rumored population of ultimates here is only about 10,000, but the ultimates purchase a large number of infomorph indentures from Mars. Although there are no reports of any of these indentures returning, rumor has it that the ultimates download indentures serving in sensitive areas into deaf, visually limited flats with no AR implants and limited mental capacity.

Neptune

Frigid, swept by 2,100 km/h winds, and tinged blue by methane traces in its atmosphere, Neptune is the last major planet in the system, orbiting at a distance of 30 AU from the sun. This far from the nearest star, plants will not grow and solar power is useless. The only sources of power are fusion, focused starlight, waste heat, and chemical reactions. The hypercorp presence in the Neptunian system is virtually absent, as the long communication lags and extreme travel distances from the rest of the solar system mean that few Neptunian ventures garner profits. Similarly, the Titanian brand of technosocialism has never found roots here. The few transhumans who live out here are a resourceful lot, and many colonists out here aren't human at all. Anarchists, brinkers, and desperados comprise most of the population.

Glitch

This habitat has the highest population density in the system, with 20,000 infomorphs living in a meshed cluster of twenty spherical structures that are 10 meters in diameter, powered by efficient central reactor systems. The habitat is attended by a cloud of factories, harvesters, and defense satellites that occupy considerably more space than the station itself. Various rumors circulate that the inhabitants are researching methods to improve infomorphs in the manner of seed AIs, or that they are engaged in some vast forecasting simulation effort.

Ilmarinen

Aligned with the argonauts, Ilmarinen is a hybrid beehive/cluster dug into and partially protruding from the large L4 asteroid Greymere. It is the largest habitat in Neptune's Trojans, with a population of

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

7,000. Like many transhumans this far out in space, most of Ilmarinen's inhabitants are heavily modified or inhabit exotic morphs. Vacuum and cold tolerant morphs prevail, and many sections of the habitat are unlivable for baseline transhumans.

Mahogany

The neo-avians who built this station threw away the manual on habitat design and revisited the long-out of favor toroidal configuration. The result is a disc habitat—a plate half a kilometer along the edge and one kilometer in diameter, resembling a slice of an O'Neill cylinder with no windows. A fusion-powered, low-heat, axial light source nourishes the verdant hardwood forest below. Structures are built into the disc walls up to 500 meters in height. The disc, mostly woven from carbon fibers, rotates quickly enough to generate 0.5 g at the habitat floor. Mahogany has a population of 4,000 mercurials, most of them neo-avians.

Minor Moons

Neptune's other twelve moons are largely small bodies, icy and sparsely (if at all) populated. Proteus and Larissa, both sizable and relatively close to the planet, host small populations. Naiad and Thalassa are tiny but very close to the planet, and thus home to some atmospheric skimming operations. Neso, orbiting at about 1/3 AU from Neptune, has never been visited—even by robotic probes.

Neptunian Trojans

Trailing and preceding Neptune at the L4 and L5 points of its orbit are several hundred asteroids of diverse, mostly icy composition. Neptune's Trojans are home to brinkers, hard-bitten prospectors, exotic exhumans, and other extreme survivalists.

Triton

Neptune's largest moon has a tenuous atmosphere and is chemically complex, composed of equal parts rock and ices (frozen nitrogen, water, and carbon dioxyde). It is also geologically active, with cryovolcanoes continually resurfacing the planet. The surface has few inhabitants but several habitats orbit here, using the moon's abundant raw materials and low escape velocity to their advantage.

The Edge of the System

Beyond Neptune lie only dwarf planets and icy asteroids waiting to become comets, roughly divided into two regions: the Kuiper Belt, from 30 to 55 AU from the Sun, and the Scattered Disk, which extends from 55 AU out to the Oort Cloud. Pluto, its binary object Charon, and Eris have compositions similar to Triton. A few small habitats orbit Pluto and Charon, eking out a living by prospecting for volatiles. A number of other dwarf planets orbit in the Kuiper belt and the Disk, including Orcus, Senda, and 2000 OO67. Of these, only Eris harbors a substantial population.

Eris

Located at 55 AU from the sun at the edge of the Scattered Disk, Eris is the largest dwarf planet in the system and the site of a grim struggle between two of transhumanity's most militant factions: ultimates and exhumans. The focal point of the struggle is Discord Gate, the most remote of the system's publicly-known Pandora Gates, located in an icy labyrinth half a kilometer beneath the surface of Eris.

The brief history of the gate is bloody. Go-nin Group troops violently wrested control of the gate from the Ilmarinen anarchists who discovered it. Titan and several anarchist and brinker groups both tried to dislodge Go-nin, but these attempts failed, at great cost in lives and ships. Go-nin's control of the gate seemed ensured until the hypercorp apparently tampered too heavily with the gate's black box controls. A devastating explosion ensued, all but wiping out the gate and Go-nin base. The gate, however, restructured itself over the course of several days, though its location has now shifted to the bottom of a melted crater.

In the short period it took the Go-nin Group to hire a group of ultimate mercenaries to retake the gate, a hitherto unknown force of exhumans had seized the area. The ultimates succeeded, but a group of exhumans escaped through the gate. Go-nin now has nominal control of the Discord Gate through the ultimates, who maintain a heavily militarized base on Eris's moon, Dysnomia. However, in recent years the gate facility has suffered several attacks by exhumans eager to infiltrate the gate—and according to rumors, at least one of those attacks originated from the gate itself.

Markov

The location of this habitat, a major stronghold of the argonauts, is a closely guarded secret. Attempts to search it out have revealed only decoys or lifeless rocks. Though a great deal of information is available about the habitat's specs, operations, areas of research, and informational resources, only highly placed members of the argonauts may travel here. By all accounts, the habitat is a windowless beehive, designed to be virtually emissionless. Speculated locations include Pluto's moon Hydra, the deep Kuiper Belt, and even the Oort Cloud.

Extrasolar Systems

Although travel between the stars is still outside the realm of transhumanity's achievements, the Pandora Gates have allowed passage to myriad other star systems. A few are noted here, though many more exist—not all of them explored.

Echo

Echo is a binary system consisting of a bright orange main sequence star and a pulsar (whence the system's name) about 12 light hours from one another. The system has one immense, bright yellow Jovian world (Echo VI) weighing in at 1.8 Jupiter masses and boasting 101 known moons, two Neptune-like ice giants further out, a thin mid-system asteroid belt, and several Mercury-like inner planets.

The original Pandora Gate opens onto lifeless Echo V, a forbidding place littered with the detritus of a dead alien civilization. The hollow buildings of these precursors look out over once-verdant alluvial plains now home to only dry arroyos and dust. In other places, eons of wind erosion have carried the soil away entirely, leaving only barren expanses of dark basaltic slag. Chemically and geologically, the world is very similar to Mars, had Mars suffered another half a billion years' loss of atmosphere. Research into the relics of the long-dead aliens suggests that they were morphologically similar to arthropods or arachnids, earning them the designation of Iktomi, after a Native American spider god. So far, little else has been discerned about them.

Echo IV, on the other hand, is the closest thing transhumanity has found to a paradise since losing Earth. The native life is carbon-based, with many plants and fish edible even to flats. The climate is warm temperate, the atmosphere breathable with no major contaminants. The northern and southern latitudes are home to trackless forests dominated by various species of valders—huge, maple-like trees with dark red leaves. In the equatorial regions lie balmy, nutrient-rich floodplains ripe for cultivation, broken up by the occasional mountain range. Echo IV is still geologically active due to tidal heating, though older than Earth by about two billions years, and has two megacontinents connected near the equator by a tenuous land bridge. Notable native life include the Unagi, a fearsome, eel-like deep sea predator, and the clown sprite, a flying primate-analog that exists in a symbiotic relationship with the Echolalian land anenome, a huge, venomous, carnivorous plant that grows in the cloud forests of the equatorial highlands. The biosphere is diverse with many other megafauna, some quite dangerous.

Luca

Luca is an M-Class red dwarf located in a region of the galaxy far removed from any point of reference known to transhuman astronomy. The system has only a single gas giant of about 1.4 Jupiter masses—insufficient to shield the inner worlds from constant asteroid bombardment. The lone gas giant is flanked by a tenuous metallic inner asteroid belt and a wide ice and silicate outer belt. The only other bodies worthy of planetary status are a hellish inner world with Mercury's richness of metal and Venus' infernal atmosphere and a few large, sullen plutoids sharing Lagrange orbits with an asteroid field comprised of the shattered mass of a third plutoid.

Accessible by both the Vulcanoid and Fissure Gates, Luca II is a heavily cratered terrestrial planet with a thick, dusty atmosphere—just about breathable to transhumans with the right gear. It is a cold, rocky world of craggy hills, knee-high forests, hissing geothermal bogs, and fungal meadows. The natives, who have been extinct for at least a million years, evolved from animals not unlike Earth's aardvarks. Originally insect mound predators, the Lucans evolved vision well into the infrared (as demonstrated by the unusual pigments on their pottery and later-stage porcelain) and, based on analysis of their artifacts, had a sense akin to ultrasonic imaging. Their civilization went through several cycles of rise and fall, punctuated by celestial cataclysms that killed off less adaptable species and made resources scarce. The Lucans seem never to have evolved past medieval levels of societal organization prior to the Great Impact. Within a hundred years of that final impact, the last of the Lucans perished, never having invented the telescope, the computer, or space flight.

Luca II hosts Banshee, an underground settlement with a few prominent surface features, including a radio astronomy station, park domes, a short-hop aerospace port, and solar farms. It is set on

the Howling Plain, a windy plain of scrub brush and bogs chosen for its rich hydrocarbon deposits and low incidence of asteroid impacts. Banshee is an uneasy blend of anarchist colonists and hypercorp interests.

Mishipizheu

Mishipizheu is a red giant. The planet from which the star takes its name, Mishipizheu I, is a Mars-sized sphere of water with an atmosphere of nitrogen and carbon dioxide and a rocky core. Mishipizheu I was an almost Venus-sized sphere of ice 700 million years ago, but the expansion of its star into the red giant phase melted the planet. Initially quite warm and full of pockets of ice and carbonaceous silts, the melting planet was a crucible in which life could develop and now hosts a complex ecosystem. Amoeboid boiler reefs composed of gas sac creatures and their symbiotes bob on the surface or maintain neutral buoyancy in the depths, becoming platforms for complex ecosystems of largely animalian life.

Mishipizheu I is orbited by a mid-size rocky moon, Nanabozho, reachable via the Discord Gate. Nanabozho is a mystery, as moons of this composition are not normally found so far out in a system. The best current theory is that Nanabozho was an inner system object with an erratic orbit. It was perturbed out of its orbit by one of the now-engulfed gas giants that must once have existed, whence by chance it was captured in Mishipizheu's orbit. The extraordinarily slim chances of such an event, however, have led to wild speculation as to the actual origin of the moon, which is as popular a destination for gatecrashers as the planet below.

Synergy

Among the first attempts to establish a gatecrasher colony beyond the original Pandora Gate, just 5 years after the Fall, was a group of two hundred and fifty colonists equipped with experimental headware communications technology. Shortly after the jump, however, a still unidentified glitch forced the gate to close and the mechanism could not be reset to the same setting and coordinates for an entire five years. When the gate technicians finally managed to reacquire the settings recently and reopen the gate, the colonists were found to have survived, but they had *changed*. The technology sent with them was largely AI controlled, enabling the creation of a hypermesh that linked the thoughts, emotions, and sensory experiences of each colonist with each other. After half a decade of difficult survival measures, this technology and the stress of the situation linked the colonists and their AIs into a group mind. Despite having the opportunity to return to the solar system, these Synergists, as they call themselves, have no desire to cut themselves off from their shared consciousness.

Other Exoplanets

The number of extraterrestrial star systems that transhumanity has visited via the gates now numbers into the hundreds, if not more—though only a small percentage of these have been notable and/or hospitable. Only a few dozen have been substantially occupied or colonized by transhumans, though this number is growing rapidly. Among these, a few deserve mention:

Arcadia: Accessed through the Martian Gate, the Planetary Consortium is constructing an aerostat in the upper atmosphere of this Venus-like planet which will serve as a private resort for the hyperelite.

Babylon: Initially thought to just be an unremarkable scorched moon orbiting a planet very close to a yellow star, researchers measuring the star made an incredible accident discovery: what appears to be a derelict spacecraft orbiting deep in the star's corona. Attempts to access this vessel have so far been thwarted, but other projects are in the works, including the possibility of towing the craft to safer climes.

Bluewood: One of the first anarchist colonies established through the Fissure Gate, this settlement inhabits a beautiful, small Earth-like world with a thriving eco-system. Established on the outskirts of a large forest of eerie, alien, blue "trees," the colony was taken off-guard by the trees alarming growth rate. The modular settlement buildings have all but been surrounded and encased by overgrowth despite modest efforts to keep them clear. Still intact but engulfed by spiraling branchworks, the effect is beautiful and haunting.

Nótt: This barren ice-covered moon suffers from heavy geothermal activity that causes its frozen crust to constantly crack and refreeze. The unfortunate research station staff here, all indentured, claim that something out in the ice is stalking them—over a dozen have disappeared in the last year. Pathfinder refuses to pull the station back, however, and thorough searches from its security teams have turned up nothing.

Sky Ark: TerraGenesis is redesigning this dry, arid moonlet as an offworld preserve for animal life, including many formerly extinct Earth species resurrected from fossil DNA.

Wormwood: This maze-like warren seems to be an actual beehive habitat, though who tunneled it out or why remains an unanswered mystery. The former asteroid is part of the ring system of an unknown gas giant. Clearly artificial, gatecrashers so far have found no signs of technology or life.

Analysis: Myst Trees

[File Corruption: 98%]
[Partial Retrieval Complete]
… called "myst trees" by the residen@# of Ca*&78 … also found on tw) oth*r exoplanets]]]]] … seem to be some sort of living data storage{{{[— … utilizing nanofog systems for <|{9h"" … high pr@bability of alien origin [[[[[[; ;

4
GAME MECHANICS

DICE:

Eclipse Phase uses percentile dice—d100, or two ten-sided dice (d10s) ■ **p. 114**

MAKING TESTS:

All tests are d100 rolls, trying to roll under or equal to a target number. The target number is determined by your skill rating, with modifiers applied depending on how difficult the task is. 00 is always a success; 99 always a failure. ■ **p. 115**

CHARACTER DEFINITIONS:

All *Eclipse Phase* characters have certain considerations to take into account before you move on to character generation. These considerations are:

Concept: Personality & identity ■ **p. 120**

Motivations: 3 ideologies, desires, or driving factors. ■ **p. 121**

Ego: Your inherent personal characteristics that remain with you from morph to morph. ■ **p. 121**

Morph: Physical (and sometimes virtual) form. ■ **pp. 121 and 124**

Aptitudes: 7 core skills representing your ingrained talents. ■ **p. 123**

Learned Skills: Your education and training; determines the target numbers for most tests. ■ **p. 123**

Traits: Qualities and features, both negative and positive. ■ **p. 123**

Rep: Aggregate opinions about your character on varying social nets. ■ **p. 125**

GAME RULES SUMMARY:

All the basics are summarized on p. 127, with additonal references to where those rules are found in the book. ■ **p. 127**

GAME MECHANICS

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT

In every game, there comes a time when the gamemaster must decide if a character succeeds or fails in an action. This is when the players roll dice and the characters' stats and abilities come into play. This chapter defines the core mechanics and rules that govern the outcomes of events in *Eclipse Phase*.

THE ULTIMATE RULE

One rule in *Eclipse Phase* outweighs all of the others: have fun. This means that you should never let the rules get in the way of the game. If you don't like a rule, change it. If you can't find a rule, make one up. If you disagree over a rule's interpretation, flip a coin. Try not to let rules interfere with the game's flow and mood. If you're in the middle of a really good scene or intense roleplaying and a rule suddenly comes into question, don't stop the game to look it up and argue about it. Just wing it, make a decision quickly, and move on. You can always look the rule up later so you'll remember it next time. If there are disagreements over a rule's interpretation, remember that the gamemaster gets the final say.

This rule also means that you shouldn't let the story be guided solely by rolls of the dice. The element of chance that dice rolls provide lends a sense of randomness, uncertainty, and surprise to the game. Sometimes this is exciting, like when a character makes an unexpectedly difficult roll and saves the day. At other times, it is brutal, such as when a lucky shot from an opponent takes one of the characters out for good in a fight. If the gamemaster wants a scenario to result in a pre-planned dramatic outcome and an unexpected die roll threatens that plan, they should feel free to ignore that roll and move the story in the direction they desire.

DICE

Eclipse Phase uses two ten-sided dice (each noted as a *d10*) for random rolls. In most cases, the rules will call for a percentile roll, noted as *d100,* meaning that

you roll two ten-sided dice, choosing one to count first, and then read them as a result between 0 and 99 (with a roll of 00 counting as zero, not 100). The first die counts as the tens digit, and the second die counts as the ones digit. For example, you roll two ten-sided dice, one red and one black, calling out red first. The red one rolls a 1 and the black die rolls a 6, for a result of 16. Some sets of d10s, as shown above, are specifically marked for easier rolling and reading.

Occasionally the rules will call for individual die rolls, with each individual ten-sided die listed as a *d10*. If the rules call for several dice to be rolled, it will be noted as 2d10, 3d10, and so on. When multiple ten-sided dice are rolled in these instances, the results are added together. For example, a 3d10 roll of 4, 6, and 7 counts as 17. On d10 rolls, a result of 0 is treated as a 10, not a zero.

Most players of *Eclipse Phase* can get by with having two ten-sided dice, but it doesn't hurt to have more on hand. These dice can be purchased at your friendly local game store or borrowed from another gamer.

A NOTE ON TERMINOLOGY AND GENDER

The *Eclipse Phase* setting raises a number of interesting questions about gender and personal identity. What does it mean when you are born female but you are occupying a male body? When it comes to language and editing, this also poses a number of interesting questions for what pronouns to use. The English language has a bit of a bias towards male-gendered pronouns that we hope to avoid in these rules.

For purposes of this game, we've sidestepped some of these gender neutrality quandaries by adopting the "Singular They" rule. What this means is that rather than just going with male pronouns ("he") or switching between gendered pronouns ("he" in one chapter, "she" in the next), we have adopted the use of "they" even when referring to a single person. To some folks, this is bad grammar, but there is actually some good evidence that this usage has strong historical roots (look it up), and it certainly gives our editors fewer headaches.

When referring to specific characters, we use the gendered pronoun appropriate to the character's personal gender identity, no matter the sex of the morph they are in. ■

MAKING TESTS

In *Eclipse Phase,* your character is bound to find themself in adrenalin-pumping action scenes, high-stress social situations, lethal combats, spine-tingling investigations, and similar situations filled with drama, risk, and adventure. When your character is embroiled in these scenarios, you determine how well they do by *making tests*—rolling dice to determine if they succeed or fail, and to what degree.

You make tests in *Eclipse Phase* by rolling d100 and comparing the result to a target number. The target number is typically determined by one of your character's skills (discussed below) and ranges between 1 and 98. If you roll *less than or equal to* the target number, you succeed. If you roll *higher* than the target number, you fail.

A roll of 00 is *always* considered a success. A roll of 99 is *always* a failure.

EXAMPLE

Jaqui's character needs to make a skill test. Her skill is 55. Jaqui takes two ten-sided dice and rolls a 53—she succeeds! If she had rolled a 55, she still would have been successful, but any roll higher than that would have been a failure.

TARGET NUMBERS

As noted above, the target number for a d100 roll in *Eclipse Phase* is usually the skill rating. Occasionally, however, a different figure will be used. In some cases, an aptitude score is used, which makes for much harder tests as aptitude scores are usually well below 50 (see *Aptitudes,* p. 123). In other tests, the target number will be an aptitude rating x 2 or x 3 or two aptitudes added together. In these cases, the test description will note what rating(s) to use.

WHEN TO MAKE TESTS

The gamemaster decides when a character must make a test. As a rule of thumb, tests are called for whenever there is a chance that a character might fail at an action or when success or failure may have an effect on the ongoing story. Tests are also called for whenever two or more characters act in opposition to one another (for example, if they are arm wrestling or haggling over a price). On the other hand, routine use of a skill by someone with at least a rating of 30 in that skill can be assumed to be successful with no test.

It is not necessary to make tests for everyday, run-of-the-mill activities, such as getting dressed or checking your email (especially in *Eclipse Phase,* where so many activities are automatically handled by the machines around you). Even an activity such as driving a car does not call for dice rolls as long as you have a small modicum of skill. A test might be necessary, however, if you happen to be driving while bleeding to death or are pursuing a gang of motorcycle-riding scavengers through the ruins of a devastated city.

Knowing when to call for tests and when to let the roleplaying flow without interruption is a skill every gamemaster must acquire. Sometimes it is better to simply make a call without rolling dice in order to maintain the pacing of the game. Likewise, in certain circumstances the gamemaster may decide to make tests for a character in secret, without the player noticing. If an enemy is trying to sneak past a character on guard, for example, the gamemaster will alert the player that something is amiss if they ask them to make a perception test. This means that the gamemaster should keep a copy of each character's record sheet on hand at all times.

DIFFICULTY AND MODIFIERS

The measure of a test's difficulty is reflected in its *modifiers.* Modifiers are adjustments made to the target number (not the roll), either raising or lowering it. A test of average difficulty will have no modifiers, whereas actions that are easier will have positive modifiers (raising the target number, making success more likely) and harder actions will have negative modifiers (lowering the target number, making success less likely). It is the gamemaster's job to determine if a particular test is harder or easier than normal and to what degree (as illustrated on the Test Difficulty table) and to then apply the appropriate modifier.

TEST DIFFICULTY

DIFFICULTY LEVEL	MODIFIER
Effortless	+30
Simple	+20
Easy	+10
Average	+0
Difficult	–10
Challenging	–20
Hard	–30

MODIFIER SEVERITY

SEVERITY	MODIFIER
Minor	+/– 10
Moderate	+/– 20
Major	+/– 30

Other factors might also play a role in a test, applying additional modifiers aside from the test's general level of difficulty. These factors include the environment, equipment (or lack thereof), and the health of the character, among other things. The character might be using superior tools, working in poor conditions, or even wounded, and each of these factors must be taken into account, applying additional modifiers to the target number and adjusting the likelihood of success or failure.

For simplicity, modifiers are applied in multiples of 10 and come in three levels of severity: Minor (+/–10), Moderate (+/–20), and Major (+/–30). Any number of modifiers may be applied, as the gamemaster deems appropriate, but the cumulative modifiers may not exceed + or – 60.

EXAMPLE

Jaqui is attempting to leap from one door to another across a large chamber in zero gravity. She's in a hurry. If she misses the door, she'll lose valuable time, so the gamemaster calls for a Freefall Skill Test. Jaqui's Freefall skill is 46. Unfortunately the chamber is filled with floating debris that could get in her way. The gamemaster determines this is a Moderate modifier, reducing the target number by 20. Jaqui must roll a 26 or less to succeed.

SIMPLIFYING MODIFIERS

Rather than looking up and accumulating a long list of modifiers for each action and doing the math, the gamemaster can instead choose to simply "eyeball" the situation and apply the modifier that best sums up the net effect. This method is quicker and allows for easier test resolution. One way to eyeball the situation is to simply apply the most severe modifier affecting the situation.

EXAMPLE

Tyska is trying to escape from some thing that's chasing him through a derelict habitat. The gamemaster calls for a Freerunning Test, but there are a number of modifying conditions: it's dark, he's running with a flashlight, and there's debris everywhere. Tyska, however, has an entoptic map of the best route out of there to help him out. The gamemaster assesses the situation and decides the overall effect is that the test is challenging, and so a –20 modifier is applied.

NARRATIVE MODIFIERS

If you wish to develop a more cinematic feel for your game, or if you simply wish to encourage your players to invest more detail and creativity into the storyline, you can award "narrative modifiers" to a character's test when that player describes what the character is doing in exceptionally colorful, inventive, or dramatic detail. The better the detail, the better the modifier.

EXAMPLE

Cole doesn't just want his character to jump over the table, he wants to make an impact. Cole tells the gamemaster that his character kicks a chair out of the way, rolls over the dinner table on his shoulder, grabs a fork as he does it, makes sure to knock all of the fine china on the floor, then lands on his feet in a defensive martial arts posture, fork raised high. The gamemaster decides the extra description is worth +10 to his Freerunning Test.

CRITICALS: ROLLING DOUBLES

Any time both dice come up with the same number—00, 11, 22, 33, 44, etc.—you have scored a critical success or critical failure, depending on whether your roll also beat your target number. 00 is always a critical success, whereas 99 is always a critical failure. Rolling doubles means that a little something *extra* happened with the outcome of the test, either positive or negative. Criticals have a very specific application in combat tests (see p. 192), but for all other purposes the gamemaster decides what exactly went wrong or right in a specific situation. Criticals can be used to amplify a success or failure: you finish with a flourish or fail so spectacularly that you remain the butt of jokes for weeks to come. They can also result in some sort of unexpected secondary effect: you repair the device *and* improve its performance; or you fail to shoot your enemy *and* hit an innocent bystander. Alternately, a critical can be used to give a boost (or a hindrance) to a follow-up action. For example, you not only spot a clue, but you immediately suspect it to be red herring; or you not only fail to strike the target, but your weapon breaks, leaving you defenseless. Gamemasters are encouraged to be inventive with their use of criticals and choose results that create comedy, drama, or tension.

EXAMPLE

Audrey is attempting to intimidate a low-level triad mook into giving her information. Unfortunately she rolls a 99—a critical failure. Not only does she fail to scare the guy, but she accidentally lets slip an important piece of information that she didn't want the triad to know. If she rolled a 00 instead—a critical success—she would browbeat the man so thoroughly that he throws in some extra important information just so she'll leave him alone in the future.

DEFAULTING: UNTRAINED SKILL USE

Certain tests may call for a character to use a skill they don't have—a process called *defaulting*. In this case, the character instead uses the rating of the aptitude (see p. 123) that is linked to the skill in question as the target number.

Not all skills may be defaulted; some of them are so complex or require such training than an unskilled character can't hope to succeed. Skills that may not be defaulted on are noted on the Skill List (p. 176) and in the skill description.

In rare cases, a gamemaster might allow a character to default to another skill that also relates to a test (see p. 173). When allowed, defaulting to another skill incurs a –30 modifier.

EXAMPLE

Toljek is trying to casually sneak inside a hypercorp facility when he unexpectedly runs into a hypercorp employee. The woman he's encountered doesn't necessarily have grounds to be suspicious of Toljek's presence, but the gamemaster calls for Toljek to make a Protocol Test to pass himself off as someone that belongs there. Unfortunately, Toljek doesn't have that skill, so he must default to its linked aptitude, Savvy, instead. His Savvy score is only 18, so Toljek better hope he gets lucky.

Teamwork

If two or more characters join forces to tackle a test together, one of the characters must be chosen as the primary actor. This leading character will usually (but not always) be the one with the highest applicable skill. The primary acting character is the one who rolls the test, though they receive a +10 modifier for each additional character helping them out, up to a maximum +30 modifier. Note that helping characters do not necessarily need to know the skill being used if the gamemaster decides that they can follow the primary actor's lead.

EXAMPLE

The robotic leg on Eva's synthetic morph has been badly damaged, so she needs to repair it. Max and Vic both sit down and help her out, giving her a +20 modifier (+10 for each helper) to her Hardware: Robotics Test.

Types of Tests

There are two types of tests in *Eclipse Phase:* Success and Opposed.

Success Tests

Success Tests are called for whenever a character is acting without direct opposition. They are the standard tests used to determine how well a character exercises a particular skill or ability.

Success Tests are handled exactly as described under *Making Tests,* p. 115. The player rolls d100 against a target number equal to the character's skill +/– modifiers. If they roll equal to or less than the target number, the test succeeds, and the action is completed as desired. If they roll higher than the target number, the test fails.

Trying Again

If you fail at a test, you can take another shot. Each subsequent attempt at an action after a failure, however, incurs a cumulative –10 modifier. That means the second try suffers –10, the third –20, the fourth –30, and so on, up to the maximum –60.

Taking the Time

Most skill tests are made for Automatic, Quick, or Complex Actions (see pp. 119–120) and so are resolved within one Action Turn (3 seconds, see p. 119). Tests made for Task actions (p. 120) take longer.

Players may choose to take extra time when their character undertakes an action, meaning that they choose to be especially careful when performing the action in order to enhance their chance of success. For every minute of extra time they take, they increase their target number by +10. Once they've modified their target number to over 99, they are practically assured of success, so the gamemaster can waive the dice roll and grant them an automatic success. Note that the maximum +60 modifier rule still applies, so if their

skill is under 40 to start with, taking the time may still not guarantee a favorable outcome. You may take the time even when defaulting (see *Defaulting*, p. 116).

Taking extra time is a solid choice when time is not a factor to the character, as it eliminates the chance that a critical failure will be rolled and allows the player to skip needless dice rolling. For certain tests it may not be appropriate, however, if the gamemaster decides that no amount of extra time will increase the likelihood of success. In that case, the gamemaster simply rules that taking the time has no effect.

For Task action tests (p. 120), which already take time to complete, the duration of the task must be increased by 50 percent for each +10 modifier gained for taking extra time.

EXAMPLE

Srit is searching through an abandoned spaceship, looking for a sign of what happened to the missing crew. The gamemaster tells her it will take twenty minutes to search the whole ship. She wants to be extra thorough, however, so she takes an extra thirty minutes. Fifty percent of the original timeframe is ten minutes, so taking an extra thirty minutes means that Srit receives a +30 modifier to her Investigation Test.

SIMPLE SUCCESS TESTS

In some circumstances, the gamemaster may not be concerned that a character might fail a test, but instead simply wants to gauge how well the character performs. In this case, the gamemaster calls for a *Simple Success Test*, which is handled just like a standard Success Test (p. 117). Rather than determining success or failure, however, the test is assumed to succeed. The roll determines whether the character succeeds *strongly* (rolls equal to or less than the target number) or succeeds *weakly* (rolls above the target number).

EXAMPLE

Dav is taking a short spacewalk between two parked ships. The gamemaster determines that this is a routine operation and calls for Dav to make a Simple Success Test using the Freefall skill. Dav's skill is only 35. He rolls a 76, but the gamemaster merely determines that Dav has some trouble orienting himself and has to take some extra time. If Dav had rolled a 77—a critical failure—his suit's maneuvering jets may have died and he may have accidentally propelled himself into deep space.

MARGIN OF SUCCESS/FAILURE

Sometimes it may be important that a character not only succeeds, but that they kick ass and take names while doing it. This is usually true of situations where the challenge is not only difficult but the action must be pulled off with finesse. Tests of this sort may call for a certain *Margin of Success (MoS)*—an amount by which the character must roll under the target number. For example, a character facing a target number of 55 and a MoS of 20 must roll equal to or less than a 35 to succeed at the level the situation calls for.

EXAMPLE

An enemy has thrown an incendiary device near Stoya. She has only a moment to act and decides to try to kick it away from herself. Even better, she hopes to kick it into the open maintenance hatch a dozen meters away. The gamemaster determines that in order to kick it into the hatch, Stoya needs to succeed with an MoS of 30. Her Unarmed Combat skill is 66, so Stoya needs to roll 66 or less to kick the device away (though she may still be damaged when it explodes), and 36 or less to kick it into the hatch (in which case she will be completely safe when it detonates). She rolls a 44—missing the hatch, but scoring a critical success! Her aim is off, but the gamemaster decides that the device rebounds off some machinery and falls into the hatch anyway.

At other times, it may be important to know how badly a character fails, as determined by a *Margin of Failure (MoF)*, which is the amount by which the character rolled over the target number. In some cases, a test may note that a character who fails with a certain MoF may suffer additional consequences for failing so dismally.

EXAMPLE

Nico is trying to sketch out a picture of someone's face. He has eidetic memory, but his drawing needs to be good enough for someone else to identify the person. He rolls against his Art: Drawing skill of 34, scoring a 97—a MoF of 63. The illustration is so bad that the gamemaster determines that anyone using that picture to identify the person will need to score a MoS of at least 63 on a Perception Test to recognize the person.

EXCELLENT SUCCESSES/SEVERE FAILURES

Excellent Successes and Severe Failures are a method used to benchmark successes and failures with an MoS or MoF of 30+. Excellent Successes are used in situations where an especially good roll may boost the intended effect, such as inflicting more damage with a good hit in combat. Severe Failures denote a roll that is particularly bad and has a worse effect than a simple failure. Neither Excellent Successes or Severe Failures are as good or bad as criticals, however.

EXAMPLE

Stoya has been caught in a deal gone bad. She moves to kick her opponent using her Unarmed Combat of 65. She rolls a 33 (for an MoS of 32), and her opponent rolls a 21 (also successful, but less than Stoya, so she wins). She has succeeded and beaten her opponent with an MoS of 30+, scoring an Excellent Success, meaning she will inflict extra damage with the kick.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Opposed Tests

An Opposed Test is called for whenever a character's action may be directly opposed by another. Regardless of who initiates the action, both characters must make a test against each other, with the outcome favoring the winner.

To make an Opposed Test, each character rolls d100 against a target number equal to the relevant skill(s) along with any appropriate modifiers. If only one of the characters succeeds (rolls equal to or less than their target number), that character has won. If both succeed, the character who gets the highest dice roll wins. If both characters fail, or they both succeed and roll the same number, then a deadlock occurs—the characters remain pitted against each other, neither gaining ground, until one of them takes another action and either breaks away or makes another Opposed Test.

Note that critical successes trump high rolls in an Opposed Test—if both characters succeed and one rolls 54 while the other rolls 44, the critical roll of 44 wins.

Care must be taken when applying modifiers in an Opposed Test. Some modifiers will affect both participants equally, and should be applied to both tests. If a modifier arises from one character's advantage in relation to the other, however, that modifier should only be applied to benefit the favored character; it should not also be applied as a negative modifier to the disadvantaged character.

EXAMPLE

Zhou has been hired by the Jovian Republic to infiltrate his old pirate band. Even though he's resleeved in a new skin, he's worried that one of his old buddies, Wen, might recognize his mannerisms, since they lived, whored, and raided together for years. After Zhou has spent some time in Wen's company, the gamemaster makes a secret Opposed Test, pitting Zhou's Impersonation skill of 57 against Wen's Kinesics of 34. The gamemaster decides to give Wen a bonus +20, since he is so familiar with his former buddy and has been on the lookout for him, eager to repay the old grudge that split them apart. Wen's target number is now 54.

The gamemaster rolls for both. Zhou scores a 45 and Wen a 39. Both succeed, but Zhou rolled higher, so his deception is successful. The gamemaster decides that Wen finds something about Zhou to be familiar, but he can't put his finger on it.

Opposed Tests and Margin of Success/Failure

In some cases, it may also be important to note a character's Margin of Success or Failure in an Opposed Test, as with a Success Test above. In this case, the MoS/MoF is still determined by the difference between the character's roll and their target number—it is not calculated by the difference between the character's roll and the opposing character's roll.

Variable Opposed Test

In some cases, the rules will call for a *Variable Opposed Test*, which allows for slightly more outcomes than a standard Opposed Test. If both characters succeed in a Variable Opposed Test, then an outcome is obtained which is different from just one character winning over the other. The exact outcomes are noted with each specific Variable Opposed Test.

EXAMPLE

Jaqui needs to hack into a local network to retrieve some video footage. The network is actively defended by an AI, so a Variable Opposed Test is called for, pitting Jaqui's Infosec skill of 48 against the AI's Infosec of 25. Jaqui rolls a 48—a success—but the AI rolls a 14—also a success. In this circumstance, Jaqui succeeds in hacking in, but the AI is aware of the infiltration and can take active countermeasures against her.

Time and Actions

Though the gamemaster is responsible for managing the speed at which events unfold, there are times when it is important to know exactly who is acting when, especially if some people are acting before or after other people. In these circumstances, gameplay in *Eclipse Phase* is broken down into intervals called *Action Turns*.

Action Turns

Each Action Turn is three seconds long, meaning there are twenty Action Turns per minute. The order in which characters act during a turn is determined by an Initiative Test (see *Initiative*, p. 121). Action Turns are further subdivided into *Action Phases*. Each character's Speed stat (p. 121) determines the amount of actions they can take in a turn, represented by how many Action Phases they may take.

Types of Actions

The types of actions a character may take in an Action Turn are broken down to: *Automatic*, *Quick*, *Complex*, and *Task* actions.

Automatic Actions

Automatic actions are "always on" and require no effort from the character, assuming they are conscious.

Examples: basic perception, certain psi sleights

Quick Actions

Quick actions are simple, so they can be done fast and can be multi-tasked. The gamemaster determines how many Quick actions a character may take in a turn.

Examples: talking, switching a safety, activating an implant, standing up

Complex Actions

Complex actions require concentration or effort. The number of Complex actions a character may take per turn is determined by their Speed stat (see p. 121).

Examples: attacking, shooting, acrobatics, disarming a bomb, detailed examination

Task Actions

Task actions are any actions that require longer than one Action Turn to complete. Each Task action has a *timeframe,* usually listed in the task description or otherwise determined by the gamemaster. The timeframe determines how long the task takes to complete, though this may be reduced by 10 percent for every 10 full points of MoS the character scores on the test (see *Margin of Success/Failure,* p. 118). If a character fails on a Task action test roll, they work on the task for a minimum period equal to 10 percent of the timeframe for each 10 full points of MoF before realizing it's a failure.

For Task actions with timeframes of one day or longer, it is assumed that the character only works eight hours per day. A character that works more hours per day may reduce the time accordingly. Characters working on Task actions may also interrupt their work to do something else and then pick up where they left off, unless the gamemaster rules that the action requires continuous and uninterrupted attention.

Similar to taking the time (p. 117), a character may *rush the job* on a Task action, taking a penalty on the test in order to decrease the timeframe. The character must declare they are rushing the job before they roll the test. For every 10 percent they wish to reduce the timeframe, they incur a –10 modifier on the test (to a maximum reduction of 60 percent with a maximum modifier of –60).

Defining Your Character

In order to gauge and quantify what your character is merely good at and what they excel in—or what they are clueless about and suck at—*Eclipse Phase* uses a number of measurement factors: *stats, skills, traits,* and *morphs.* Each of these characteristics is recorded and tracked on your character's *record sheet* (p. 399).

Concept

Your character concept defines who you are in the *Eclipse Phase* universe. You're not just a run-of-the-mill plebeian with a boring and mundane life, you're a participant in a post-apocalyptic transhuman future who gets caught up in intrigue, terrible danger, unspeakable horrors, and scrambling for survival. Much like a character in an adventure, drama, or horror story, you are a person to whom interesting things happen—or if not, you make them happen. This means your character needs a distinct personality and sense of identity. At the very least, you should be able to sum up your character concept in a single sentence, such as "cantankerous neotenic renegade archaeologist with anger management issues" or "thrill-seeking social animal who is dangerously obsessed with conspiracy theories and mysteries." If it helps, you can always borrow ideas from characters you've seen in movies or books, modifying them to fit your tastes.

Your character's concept will likely be influenced by two important factors: *background* and *faction.* Your background denotes the circumstances under which your character was raised, while your faction indicates the post-Fall grouping to which you most recently held ties and allegiances. Both of these play a role in character creation (p. 128).

Motivations

The clash of ideologies and memes is a core component of *Eclipse Phase,* and so every character has three *motivations*—personal memes that dominate the character's interests and pursuits. These memes may be as abstract as ideologies the character adheres to or supports—for example, social anarchism, Islamic jihad, or bioconservatism—or they may be as concrete as specific outcomes the character desires, such as revealing a certain hypercorp's corruption, obtaining massive personal wealth, or winning victories for uplifted rights. A motivation may also be framed in opposition to something; for example, anti-capitalism or anti-pod-citizenship, or staying out of jail. In essence, these are ideas that motivate the character to do the things they do. Motivation is best noted as a term or short phrase on the character sheet, marked with a + (in favor of) or – (opposed to). Players are encouraged to develop their own distinct motivations for their characters, in cooperation with the gamemaster. Some examples are provided on p. 138.

In game terms, motivation is used to help define the character's personality and influence their actions for roleplaying purposes. It also serves to regain Moxie points (p. 122) and earn Rez Points for character advancement (p. 152).

Motivational goals may be short-term or long-term, and may in fact change for a character over time. Short-term goals are more immediately obtainable objectives or short-lived interests, and these goals are likely to change once achieved. Even so, they should reflect intentions that will take more than one game session to reach, possibly covering weeks or months. These short-term goals may in fact tie directly into the gamemaster's current storyline. Examples include conducting a full analysis of an alien artifact, completing a research project, or living life as an uplifted dog for a while. Long-term goals reflect deeply rooted beliefs or tasks that require major efforts and time (possibly lifelong) to achieve. For example, finding the lost backup of a sibling missing since the Fall, overthrowing an autocratic regime, or making first contact with a new alien species. For purposes of awarding Moxie or Rez Points, long-term goals are best broken down into obtainable chunks. Someone whose goal is to track down the murderer who killed their parents when they were a child, for example, can be considered to achieve that goal every time they discover some evidence that brings them a little closer to solving the puzzle.

EGO VS. MORPH

Eclipse Phase's setting dictates that a distinction must be made between a character's *ego* (their ingrained self, their personality, and inherent traits that perpetuate in continuity) and their *morph* (their ephemeral physical—and sometimes virtual—form). A character's morph may die while the character's ego lives on (assuming appropriate backup measures have been taken), transplanted into a new morph. Morphs are expendable, but your character's ego represents the ongoing, continuous life path of your character's mind, personality, memories, knowledge, and so forth. This continuity may be interrupted by an unexpected death (depending on how recent the backup was made), or by forking (see p. 273), but it represents the totality of the character's mental state and experiences.

Some aspects of your character—particularly skills, along with some stats and traits—belong to your character's ego, which means they stay with them throughout the character's development. Some stats and traits, however, are determined by morph, as noted, and so will change if your character leaves one body and takes on another. Morphs may also affect other skills and stats, as detailed in the morph description.

It is important that you keep ego- and morph-derived characteristics straight, especially when updating your character's record sheet.

CHARACTER STATS

Your character's stats measure several characteristics that are important to game play: *Initiative, Speed, Durability, Wound Threshold, Lucidity, Trauma Threshold,* and *Moxie*. Some of these stats are inherent to your character's ego, others are influenced or determined by morph.

EGO STATS

Initiative
Lucidity
Trauma Threshold
Insanity Rating
Moxie

MORPH STATS

Speed
Durability
Wound Threshold
Death Rating
Damage Bonus

INITIATIVE (INIT)

Your character's Initiative stat helps determine when they act in relation to other characters during the Action Turn (see *Initiative,* p. 188). Your Initiative stat is equal to your character's Intuition + Reflexes aptitudes (see *Aptitudes,* p. 123) multiplied by 2. Certain implants and other factors may modify this score.

EXAMPLE

Lazaro's Intuition is 15 and his Reflexes score is 20. That means his Initiative is 70 (15 + 20 = 35, 35 x 2 = 70).

SPEED (SPD)

The Speed stat determines how often your character gets to act in an Action Turn (see *Initiative,* p. 188). All characters start with a Speed stat of 1, meaning they act once per turn. Certain implants and other advantages may boost this up to a maximum of 4.

DURABILITY (DUR)

Durability is your morph's physical health (or structural integrity in the case of synthetic shells, or system integrity in the case of infomorphs). It determines the amount of damage your morph can take before you are incapacitated or killed (see *Physical Health,* p. 206).

Durability is unlimited, though the range for baseline (unmodified) humans tends to fall between 20 and 60. Your Durability stat is determined by your morph.

WOUND THRESHOLD (WT)

A Wound Threshold is used to determine if you receive a wound each time you take physical damage (see *Physical Health,* p. 206). The higher the Wound Threshold, the more resistant to serious injury you are.

Wound Threshold is calculated by dividing Durability by 5 (rounding up).

DEATH RATING (DR)

Death Rating is the total amount of damage your morph can take before it is killed or destroyed beyond repair. Death Rating is equal to DUR x 1.5 for biomorphs and DUR x 2 for synthmorphs.

EXAMPLE

Tyska is sleeved in a run-of-the-mill splicer morph with a Durability of 30. That gives him a Wound Threshold of 6 (30 ÷ 5) and a Death Rating of 45 (30 x 1.5). If Tyska acquired an implant that boosted his Durability by +10 to 40, his Wound Threshold would be 8 (40 ÷ 5) and his Death Rating would be 60 (40 x 1.5).

LUCIDITY (LUC)

Lucidity is similar to Durability, except that it measures mental health and state of mind rather than physical well-being. Your Lucidity determines how much stress (mental damage) you can take before you are incapacitated or driven insane (see *Mental Health*, p. 209).

Lucidity is unlimited, but generally ranges from 20 to 60 for baseline unmodified humans. Lucidity is determined by your Willpower aptitude x 2.

TRAUMA THRESHOLD (TT)

The Trauma Threshold determines if you suffer a trauma (mental wound) each time you take stress (see *Mental Health*, p. 209). A higher Trauma Threshold means that your mental state is more resilient against experiences that might inflict psychiatric disorders or other serious mental instabilities.

Trauma Threshold is calculated by dividing Lucidity by 5 (rounding up).

INSANITY RATING (IR)

Your Insanity Rating is the total amount of stress your mind can take before you go permanently insane and are lost for good. Insanity Rating equals LUC x 2.

EXAMPLE

Cole's Willpower is 16. That makes his Lucidity stat 32 (16 x 2), his Trauma Threshold 7 (32 ÷ 5, rounded up), and his Insanity Rating 64 (32 x 2)

MOXIE

Moxie represents your character's inherent talent at facing down challenges and overcoming obstacles with spirited fervor. More than just luck, Moxie is your character's ability to run the edge and do what it takes, no matter the odds. Some people consider it the evolutionary trait that spurred humankind to pick up tools, expand our brains, and face the future head on, leaving other mammals in the dust. When the sky is falling, death is imminent, and no one can help you, Moxie is what saves the day.

The Moxie stat is rated between 1 and 10, as purchased during character creation (and perhaps raised later). In game play, Moxie is used to influence the odds in your favor. Every game session, your character begins with a number of Moxie points equal to their Moxie stat. Moxie points may be spent for any of the following effects:

- The character may ignore all modifiers that apply to a test. The Moxie point must be spent *before* dice are rolled.
- The character may flip-flop a d100 roll result. For example, an 83 would become a 38.
- The character may upgrade a success, making it a critical success, as if they rolled doubles. The character must succeed in the test before they spend the Moxie point.
- The character may ignore a critical failure, treating it as a regular failure instead.
- The character may go first in an Action Phase (p. 189).

Only 1 point of Moxie may be spent on a single roll. Moxie points will fluctuate during gameplay, as they are spent and sometimes regained.

Regaining Moxie: At the gamemaster's discretion, Moxie points may be refreshed up to the character's full Moxie stat any time the character rests for a significant period. Moxie points may also be regained if the character achieves a personal goal, as determined by their Motivation (see p. 121). The gamemaster determines how much Moxie is regained in proportion to the goal achieved.

EXAMPLE

Audrey has a difficult Piloting: Aircraft roll to make. Her skill is 61, but she's facing a lot of modifiers (–30), and if she fails she's in big trouble. She could spend a point of Moxie before the test to ignore the modifiers, but she decides to take her chances against the target number of 31. Unfortunately, she rolls an 82. Luckily, she can spend a Moxie point to flip-flop that roll and make it a 28—a success!

DAMAGE BONUS

The Damage Bonus stat quantifies how much extra oomph your character is able to give their melee and thrown weapons attacks. Damage Bonus is determined by dividing your Somatics aptitude (see below) by 10 and rounding down.

CHARACTER SKILLS

Skills represent your character's talents. Skills are broken down into *aptitudes* (ingrained abilities that everyone has) and *learned skills* (abilities and knowledge picked up over time). Skills determine the target number used for tests (see *Making Tests*, p. 115).

APTITUDES

Aptitudes are the core skills that every character has by default. They are the foundation on which learned skills are built. Aptitudes are purchased during character creation and rate between 1 and 30, with 10 being average for a baseline unmodified human. They represent the ingrained characteristics and talents that your character has developed from birth and stick with you even when you change morphs—though some morphs may modify your aptitude ratings.

Each learned skill is linked to an aptitude. If a character doesn't have the skill necessary for a test, they may default to the aptitude instead (see *Defaulting,* p. 116).

There are 7 aptitudes in *Eclipse Phase:*

- **Cognition (COG)** is your aptitude for problem-solving, logical analysis, and understanding. It also includes memory and recall.
- **Coordination (COO)** is your skill at integrating the actions of different parts of your morph to produce smooth, successful movements. It includes manual dexterity, fine motor control, nimbleness, and balance.
- **Intuition (INT)** is your skill at following your gut instincts and evaluating on the fly. It includes physical awareness, cleverness, and cunning.
- **Reflexes (REF)** is your skill at acting quickly. This encompasses your reaction time, your gut-level response, and your ability to think fast.
- **Savvy (SAV)** is your mental adaptability, social intuition, and proficiency for interacting with others. It includes social awareness and manipulation.
- **Somatics (SOM)** is your skill at pushing your morph to the best of its physical ability, including the fundamental utilization of the morph's strength, endurance, and sustained positioning and motion.
- **Willpower (WIL)** is your skill for self-control, your ability to command your own destiny.

Learned Skills

Learned skills encompass a wide range of specialties and education, from combat training to negotiating to astrophysics (for a complete skill list, see p. 176). Learned skills range in rating from 1 to 99, with an average proficiency being 50. Each learned skill is linked to an aptitude, which represents the underlying competency in which the skill is based. When a learned skill is purchased (either during character generation or advancement), it is bought starting at the rating of the linked aptitude and then raised from there. If the linked aptitude is raised or modified, all skills built off it are modified appropriately as well.

Depending on your background and faction, you may receive some starting skills for free during character creation. Like aptitudes, learned skills stay with the character even when they change morphs, though certain morphs, implants, and other factors may sometimes modify your skill rating. If you lack a particular skill called for by a test, in most cases you can default to the linked aptitude for the test (see *Defaulting,* p. 116).

Specializations

Specializations represent an area of concentration and focus in a particular learned skill. A character who learns a specialization is one who not only grasps the basic tenets of that skill, but they have trained hard to excel in one particular aspect of that skill's field. Specializations apply a +10 modifier when the character utilizes that skill in the area of specialization.

Specializations may be purchased during character creation or advancement for any existing skill the character possesses with a rating of 30 or more. Only one specialization may be purchased for each skill. Specific possible specializations are noted under individual the skill descriptions (see *Skills,* p. 170).

EXAMPLE

Toljek has Palming skill of 63 with a specialization in Pickpocketing. Whenever he uses Palming to pick someone's pocket or otherwise steal from someone's person, his target number is 73, but for all other uses of Palming the standard 63 applies.

Character Traits

Traits include a range of inherent qualities and features that help define your character. Some traits are positive, in that they give your character a bonus to certain stats, skills, or tests, or otherwise give them an edge in certain situations. Others are negative, in that they impair your abilities or occasionally create a glitch in your plans. Some traits apply to a character's ego, staying with them from body to body, while others only apply to a character's morph.

Traits are purchased during character generation. Positive traits cost customization points (CP), while negative traits give you extra CP to spend on other things (see *Traits,* p. 145). The maximum number of CP you may spend on traits is 50, while the maximum you may gain from negative traits is 50. In rare circumstances—and only with gamemaster approval—traits may be purchased, bought off, or inflicted during gameplay (see p. 153).

Character Morph

In *Eclipse Phase,* your body is disposable. If your body gets old, sick, or too heavily damaged, you can digitize your consciousness and download it into a new body. The process isn't cheap or easy, but it offers effective immortality—as long as you remember to back yourself up and don't go insane. The term *morph* is used to describe any type of form your mind inhabits, whether it be a vat-grown clone sleeve, a synthetic robotic shell, a part-bio/part-flesh pod, or even the purely electronic software state of an infomorph.

You purchase your starting morph during character creation (see p. 128). This is likely the morph you were born with (assuming you were born), though it may simply be another morph you've moved onto.

Physical looks aside, your morph has a large impact on your characteristics. Your morph determines certain physical stats, such as Durability and Wound Threshold, and it may also influence Initiative and Speed. Morphs may also modify some of your aptitudes and learned skills. Some morphs come pre-loaded with specific traits and implants, representing how it was crafted, and you can always bling yourself out with more implants if you choose (see *Implants,* p. 126). All of these factors

are noted in the individual morph descriptions (see p. 139).

If you plan on switching your current morph to another during gameplay, you may first want to back yourself up (see *Backups and Uploads,* p. 268). Backing up regularly is always a smart option in case you suffer an accidental or untimely death. Acquiring a new morph is not always easy, especially if you want it pre-loaded according to certain specifications. The full process is detailed under *Resleeving,* p. 271.

Aptitude Maximums

Every morph has an aptitude maximum, sometimes modified by traits. This maximum represents the highest value at which the character may use that aptitude while inhabiting that morph, reflecting an inherent limitation in some morphs. If a character's aptitude exceeds the aptitude maximum of their morph, they must use it at the maximum value for the duration of the time they remain in that morph. This may also affect the skills linked to that aptitude, which must be modified appropriately.

Some implants, gear, psi, and other factors may modify a character's natural aptitudes. These augmented values may exceed a morph's aptitude maximums, as they represent external factors boosting the morph's ability. No aptitude, however, augmented or not, may ever exceed a value of 40. Innate ability only takes a person so far—after that point, actual skill is what counts.

EXAMPLE

Eva has a Cognition aptitude of 25. She is unfortunately forced to sleeve into a flat morph with an aptitude maximum of 20. For the duration of the period she inhabits that morph, her Cognition is reduced to 20, which also impacts all of her COG-linked skills, reducing them by 5.

Things Characters Use

In the advanced technological setting of *Eclipse Phase,* characters don't get by on their wits and morphs alone; they take advantage of their credit and reputation to acquire gear and implants and use their social networks to gather information. Some characters also have the capability to use mental powers known as psi.

Identity

In an age of ubiquitous computing and omnipresent surveillance, privacy is a thing of the past—who you are and what you do is easily accessed online. Characters in *Eclipse Phase,* however, are often involved in secretive or less-than-legal activities, so the way to keep the bloggers, news, paparazzi, and law off your back is to make extensive use of fake IDs. While Firewall often provides covers for its sentinel agents, it doesn't hurt to keep a few extra personas in reserve, in case matters ever go out the airlock in a hurry. Thankfully, the patchwork allegiances of city-state habitats and faction stations means that identities aren't too difficult to fake, and the ability to switch morphs makes it even easier. On the other hand, anyone with a copy of your biometrics or geneprint is going to have an edge tracking you down or finding any forensic traces you leave behind (for more on ID, see p. 279).

Social Networks

Social networks represent people the character knows and social groups with which they interact. These contacts, friends, and acquaintances are not just maintained in person, but also through heavy Mesh contact. Social software allows people to stay updated on what the people they know are doing, where they are, and what they are interested in, right up to the minute. Social networks also incorporate the online projects

of individual members, whether it's a mesh-site loaded with a band member's songs, a personal archive of stored media, a decade of blog entries reviewing the best places to score cheap electronics, or a depository of research papers and studies someone has worked on or finds interesting.

In game play, social networks are quite useful to characters. Their friends list is an essential resource—a pool of people you can actively poll for ideas, troll for news, listen to for the latest rumors, buy or sell gear from, hit up for expert advice, and even ask for favors.

While a character's social networks are nebulous and constantly shifting, the use of them is not. A character takes advantage of their social networks via the Networking (Field) skill (p. 182). The exact use of this skill is covered under *Reputation and Social Networks,* p. 285.

CRED

The Fall devastated the global economies and currencies of the past. In the years of reconsolidation that followed, the hypercorps and governments inaugurated a new system-wide electronic monetary system. Called *credit,* this currency is backed by all of the large capitalist-oriented factions and is used to trade for goods and services as well for other financial transactions. Credit is mainly transferred electronically, though certified credit chips are also common (and favored for their anonymity). Hardcopy bills are even used in some habitats.

Depending on your background or faction, your character may be given an amount of credit at the start of the game. During game play, your character must earn credit the old-fashioned way: by earning or stealing it.

REP

Capitalism is no longer the only economy in town. The development of nanofabricators allowed for the existence of post-scarcity economies, a fact eagerly taken advantage of by anarchist factions and others. When anyone can make anything, concepts like property and wealth become irrelevant. The advent of functional gift and communist economies, among other alternative economic models, means that in such systems you can acquire any goods or services you need via free exchange, reciprocity, or barter—presuming you are a contributing member of such a system and respected by your peers. Likewise, art, creativity, innovation, and various forms of cultural expression have a much higher worth than they do in capitalist economies.

In alternative economies, money is often meaningless, but *reputation* matters. Your reputation score represents your social capital—how esteemed you are to your peers. Rep can be increased by positively influencing, contributing to, or helping individuals or groups, and it can be decreased through antisocial behavior. In anarchist habitats, your likelihood of obtaining things that you need is entirely based on how you are viewed by others.

Reputation is easily measured by one of several online social networks. Your actions are rewarded or punished by those with whom you interact, who can ping your Rep score with positive or negative feedback. These networks are used by all of the factions, as reputation can affect your social activities in capitalist economies as well. The primary reputation networks include:

- **The @-list:** the Circle-A list for anarchists, Barsoomians, Extropians, scum, and Titanians, noted as @-rep.
- **CivicNet:** used by the Jovian Republic, Lunar-Lagrange Alliance, Morningstar Constellation, Planetary Consortium, and many hypercorps, referred to as c-rep.
- **EcoWave:** used by nano-ecologists, preservationists, and reclaimers, referred to as e-rep.
- **Fame:** the seen-and-be-seen network used by socialites, artists, glitterati, and media, referred to as f-rep.
- **Guanxi:** used by the triads and numerous criminal entities, referred to as g-rep.
- **The Eye:** used by Firewall, noted as i-rep.
- **RNA:** Research Network Affiliation, used by argonauts, technologists, scientists, and researchers, referred to as r-rep.

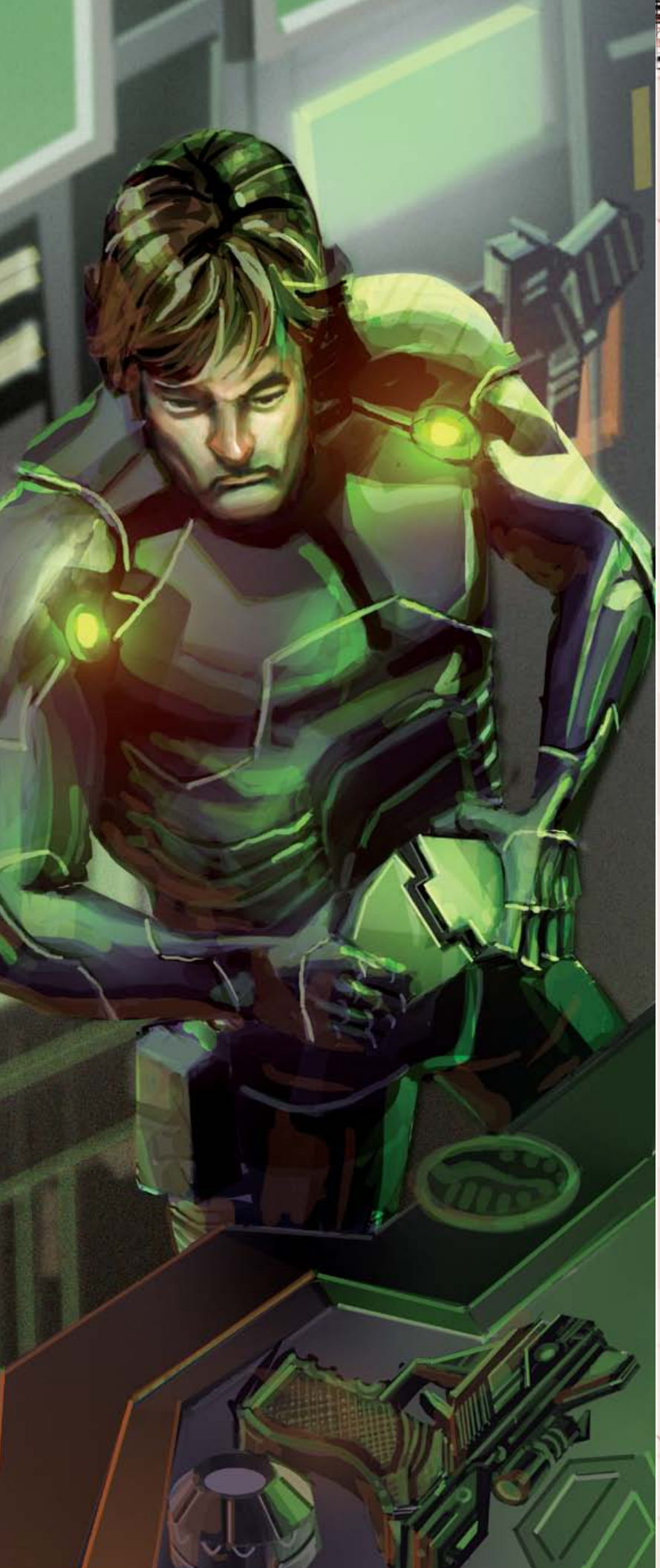
Reputation is rated from 0-99. Depending on your background and faction, you may start with a Rep score in one or more networks. This can be bolstered through spending customization points during character creation. During game play, your Rep scores will depend entirely on your character's actions. For more information, see *Reputation and Social Networks,* p. 285.

Note that each Rep score is tied to a particular identity.

GEAR

Gear is all of the equipment your character owns and keeps on their person, from weapons and armor to clothing and electronics. You buy gear for your character with customization points during character creation (see p. 136) and in the game with Credit or Rep. Certain restricted, illegal, or hard-to-find items may require special efforts to obtain (see *Acquiring Gear,* p. 298). If you have access to a nanofabricator, you may be able to simply build gear, presuming you have the proper blueprints (see *Nanofabrication,* p. 284). For a complete listing of equipment options, see the *Gear* chapter, p. 296.

Even among the remaining capitalist economies, prices can vary drastically. To represent this, all gear falls into a cost category. Each category defines a range of costs, so the gamemaster can adjust the prices of individual items as appropriate to the situation. Each category also lists an average price for that



category, which is used during character generation and any time the gamemaster wants to keep costs simple. See the Gear Costs table on p. 137.

Implants

Implants include cybernetic, bionic, genetech, and nanoware enhancements to your character's morph (or mechanical enhancements in the case of a synthetic shell). These implants may give your character special abilities or modify their stats, skills, or traits. Some morphs come pre-equipped with implants, as noted in their descriptions (see p. 139). You may also special-order morphs with specific implants (see *Morph Acquisition,* p. 277). If you want to upgrade a morph you are already in, you can undergo surgery or other treatments to have an enhancement installed (see *Healing Vats,* p. 326. For a complete list of available implant/enhancement options, see pp. 300-311, *Gear.*

Psi

Psi is a rare and anomalous set of mental abilities that are acquired due to infection by a strange nanovirus released during the Fall. Psi abilities are not completely understood, but they give characters certain advantages—as well as some disadvantages. A character requires the Psi trait (p. 147) to use psi abilities, which are called *sleights*. Psi users are called *asyncs*. A full explanation of psi and details on the various sleights can be found in the *Mind Hacks* chapter, p. 216.

GAME RULES SUMMARY

Everything you need to know about the rules—summed up on a single page.

MAKING TESTS (P. 115)

- Roll d100 (two ten-sided dice, read as a percentile amount, from 00 to 99).
- Target number is determined by the appropriate skill (or occasionally an aptitude).
- Difficulty is represented by modifiers.
- 00 is always a success.
- 99 is always a failure.
- Margin of Success of 30+ is an Excellent Success.
- Margin of Failure of 30+ is a Severe Failure.
- A roll of doubles (00, 11, 22, 33, etc.) equals a critical success or failure.

SUCCESS TEST (P. 117)

- To succeed, roll d100 and score equal to or less than the skill +/– modifiers.

OPPOSED TEST (P. 119)

- Each character rolls d100 against their skill +/– modifiers.
- The character who succeeds with the highest roll wins. If both characters fail, or both succeed but tie, deadlock occurs.

SIMPLE SUCCESS TEST (P. 118)

- Simple Success Tests automatically succeed.
- Success or failure on the roll simply indicates if the character succeeded strongly or poorly.

DEFAULTING (P. 116)

- If a character does not have the appropriate skill for a test, they may default to the skill's linked aptitude.

MODIFIERS (P. 115)

- Modifiers always affect the target number (skill), not the roll.
- Modifiers (positive or negative) come in 3 levels of severity:
  - Minor (+/–10)
  - Moderate (+/–20)
  - Major (+/–30)
- The maximum modifiers that can be applied are +/– 60.

TEAMWORK (P. 117)

- One character is chosen as the primary actor; they make the test.
- Each helper character adds a +10 modifier (max. +30).

TAKING THE TIME (P. 118)

- Character may take extra time to complete an action.
- On Complex actions, each minute taken adds +10 to the test.
- On Task actions, every 50 percent extension to the timeframe adds +10 to the test.

APTITUDES (P. 123)

- Aptitudes range from 1 to 30 (average 15).
- Aptitudes are: Cognition, Coordination, Intuition, Reflexes, Savvy, Somatics, and Willpower.

LEARNED SKILLS (P. 123)

- Skills range from 1-99 (average 50).
- Each skill is linked to and based on an aptitude.
- Morphs, gear, drugs, etc. may provide skill bonuses or penalties to individual skills.

SPECIALIZATIONS (P. 123)

- Specializations add +10 when using a skill for that area of concentration.
- Each skill may have only one specialization.

ACTION TURNS (P. 120)

- Action Turns are 3 seconds in length.
- The order in which characters act is determined by Initiative.
- Automatic actions are always "on."
- Characters may take any number of Quick Actions in a Turn (minimum of 3), limited only by the gamemaster.
- Characters may only take a number of Complex Actions equal to their Speed stat.

TASK ACTIONS (P. 120)

- Task Actions are any action that requires longer than 1 Action Turn to complete.
- Task Actions list a timeframe (anywhere from 2 Turns to 2 years).
- Timeframe reduced by 10% for each 10 points of MoS.
- If character fails, they work on the task for a minimum period equal to 10% of the timeframe for each 10 points of MoF before realizing it's a failure.

CHARACTER CREATION

BEFORE YOU START...

Many of the concepts in this chapter are described in the previous chapter. Unless you have someone to help you through character creation, you'll probably want to read **Chapter 4: Game Mechanics** first, or be prepared to flip back-and-forth with it as you make your first character.

STEP-BY-STEP
This overview of character creation should be referred to as you work your way through the creation process. ■ **p. 130**

Background: Choose or create your background—where you came from, not where you're going! ■ **p. 131**

Factions: The group of people with which you associate and identify. ■ **p. 132**

Motivations: Choosee 3 memes, ideologies, or goals that drive your character. ■ **p. 137**

Example: A sample character, built start to finish. ■ **pp. 135 & 137**

AND ADVANCEMENT 5

TRAITS

A complete list of positive and negative qualities for your cha acter's ego or morph. ■ **p. 145**

MORPHS

Choose your body from one of 29 available biological and synthetic options, including modified transhumans, pods, uplifts, robotic shells, and even virtual infomorphs. ■ **p. 139**

CHARACTER ADVANCEMENT

As your character accomplishes their goals, they'll gain Rez points that can be spent to improve skills, aptitudes, and other characteristics! ■ **p. 152**

CHARACTER CREATION AND ADVANCEMENT

The first step towards playing *Eclipse Phase* is to define your character. If you're new to the game and setting, the easiest way to jump right in is to simply select one of the Sample Characters provided on pp. 154–169. If you're more familiar with RPGs, or you simply want finer control over your character, you can build them from scratch, perhaps using one of the Sample Characters as a template. This chapter will walk you through the process of character generation, from the general concept and personality to the crunchy game statistics.

CHARACTER GENERATION

There are two parts to every player character. The first is the sets of numbers and attributes that define what a character is good or bad at (or even what they can and can't do) according to the game mechanics. These are more than just statistics, however—these characteristics help to define your character's abilities and interests, and by extension their background, education, training, and experience. During the character creation process, you will have the ability to assign, adjust, and juggle these characteristics as you like. If you have a pre-conceived notion of what the character is about, you can optimize the stats to reflect that. Alternatively, you can tweak the stats until you get something you like, then base the character's backstory off of what you develop.

The second part to every player character is their personality. What defines them as a person? What makes them tick? What pisses them off? What sparks their interest? What positive aspects of their personality make them appealing as a friend, comrade, or lover—or at least someone interesting to play? What character flaws and quirks do they have? These questions matter because they will also guide you as you assign stats, skills, and traits.

Character generation is a step-by-step process. Unlike some games, the process for creating an *Eclipse Phase* character is not random—you have complete control over every aspect of your character's design. Some stages must be completed before you can move on to others. The complete process is broken down on the Step-By-Step Guide to Character Creation sidebar.

CHARACTER CONCEPT

Deciding what/who you want to play before you make the character is usually the best route. Pick a simple archetype that fits your character, and work from there. Do you want to play an explorer? Someone sneaky, like a spy or thief? Someone cerebral, like a scientist? A hardened criminal or ex-cop? Or do you prefer to be a rabble-rousing agitator? You can also start with a personality type and choose an associated profession. If you want a social butterfly who excels at manipulating people, you can play a media personality, blogger, or party-going socialite. Perhaps you'd prefer a bottomed-out reject with substance abuse problems, in which case an ex-merc or former hypercapitalist who lost his fortune and family during the Fall might fit. How about an energetic, live-life-to-the-fullest, must-see-it-all character? Then a habitat freerunner or professional gatecrasher might be what you're looking for.

Make sure to check in with the other players and try to create a character that's complementary to the rest of the team—preferably one who provides some skill-set the group lacks. Why create a research archeologist if someone else is already set on playing one, especially when the team lacks a good combat specialist or asynch? On the other hand, if your team is going to be running an alien archeological expedition, then having more than one researcher (each with distinct areas of expertise) might not be bad.

Once you have the basic concept, try to fill it with a few more details, making it into a one-sentence

STEP-BY-STEP GUIDE TO CHARACTER CREATION

1. Define Character Concept (p. 130)
2. Choose Background (p. 131)
3. Choose Faction (p. 132)
4. Spend Free Points (p. 134)
   - a) 105 aptitude points
   - b) 1 Moxie
   - c) 5,000 credit
   - d) 50 Rep
   - e) Native tongue
5. Spend Customization Points (p. 135)
   - a) 1,000 CP to spend
     - 15 CP = 1 Moxie
     - 10 CP = 1 aptitude point
     - 5 CP = 1 psi sleight
     - 5 CP = 1 specialization
     - 2 CP = 1 skill point (61-80)
     - 1 CP = 1 skill point (up to 60)
     - 1 CP = 1,000 credit
     - 1 CP = 10 rep
   - b) Active skill minimum: 400 skill points
   - c) Knowledge skill minimum: 300 skill points
   - d) Choose Starting Morph (pp. 136 and 139)
   - e) Choose Traits (pp. 136 and 145)
6. Purchase Gear (p. 136)
7. Choose Motivation (p. 137)
8. Calculate Remaining Stats (p. 138)
9. Detail the Character (p. 138)

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

summary. If you started with the concept of "xeno-sociologist," expand it to "open-minded amateur linguist and expert xeno-sociologist who is fascinated by alien cultures, collects Factor kitsch, has a high-tolerance for 'yuck factors,' and whose best friends tend to be uplifts and AIs." This will give you a few more details around which you can focus the character's strengths and weaknesses.

CHOOSE BACKGROUND

The first step to creating your character is to choose a background. Was your character born on Earth before the Fall? Were they raised on a habitat commune? Or did they start existence as a disembodied AI?

You must choose one of the backgrounds for your character from the list below. Choose wisely, as each background may provide your character with certain skills, traits, limitations, or other characteristics to start with. Keep in mind that your background is where you came from, not who you are now. It is the past, whereas your faction represents whom your character is currently aligned with. Your future, of course, is yours to make.

The background options presented below cover a wide selection of transhumanity, but they cannot cover every possibility. If your gamemaster allows it, you may work with them to develop a background that is not included on this list, using these as guidelines to keep it balanced.

DRIFTER

You were raised with a social grouping that remained on the move throughout the Sol system. This could have been free traders, pirates, asteroid farmers, scavengers, or just migrant workers. You are used to roaming space travel between habitats and stations.

Advantages: +10 Navigation skill, +20 Pilot: Spacecraft skill, +10 Networking: [Field] skill of your choice

Disadvantages: None

Common Morphs: All, especially Bouncers and Hibernoids

FALL EVACUEE

You were born and raised on Earth and evacuated during the horrors of the Fall, leaving your old life (and possibly your friends, family, and loved ones) behind you. You were lucky enough to survive with your body intact and continue to make a life for yourself out in the system.

Advantages: +10 Pilot: Groundcraft skill, +10 Networking: [Field] skill of your choice, +1 Moxie

Disadvantages: Only 2,500 Starting Credit (can still buy credit with CP)

Common Morphs: Flats, Splicers

HYPERELITE

You are privileged to have been raised as part of the immortal upper class that rules many inner system habitats and hypercorps. You were pampered with wealth and influence that most people can only dream of.

Advantages: +10 Protocol skill, +10,000 Credit, +20 Networking: Hypercorps skill

Disadvantages: May not start with flat, splicer, or any pod, uplift, or synthetic morphs

Common Morphs: Exalts, Sylphs

INFOLIFE

You entered existence as a digital consciousness—an artificial general intelligence (AGI). Your very existence is illegal in certain habitats (a legacy of those who place the Fall at the feet of rampant AIs). Unlike the seed AIs responsible for their Fall, your capacity for self-improvement is limited, though you do have full autonomy.

Advantages: +30 Interfacing skill, Computer skills (Infosec, Interfacing, Programming, Research) bought with Customization Points are half price

Disadvantages: Real World Naiveté trait, Social Stigma (AGI) trait, may not purchase Psi trait, Social skills bought with Customization Points are double price

Common Morphs: Infomorphs, synthetic morphs

ISOLATE

You were raised as part of a self-exiled grouping on the fringes of the system. Whether raised as part of a religious group, cult, social experiment, anti-tech cell, or a group that just wanted to be isolated, you spent most if not all of your upbringing isolated from other factions.

Advantages: +20 to two skills of your choice

Disadvantages: –10 starting Rep

Common Morphs: All

LOST

You are a legacy of one of the most infamous debacles since the Fall. As a member of the "Lost generation," you went through an accelerated-growth childhood, somehow surviving where others of your kind died, went insane, or were persecuted (see *The Lost,* p. 233). Your background is a social stigma, but it does provide you with certain advantages ... and burdens.

Advantages: +20 to two Knowledge skills of your choice, Psi trait

Disadvantages: Mental Disorder (choose two) trait, Social Stigma (Lost) trait, must start with Futura morph

Common Morphs: Futuras

LUNAR COLONIST

You experienced your childhood in one of the cramped dome cities or underground stations on Luna, Earth's moon. You had a ringside seat to the Fall of Earth.

Advantages: +10 Pilot: Groundcraft skill, +10 to one Technical, Academic: [Field], or Profession: [Field] skill of your choice, +20 Networking: Hypercorps skill

Disadvantages: None

Common Morphs: Flats, Splicers

Martian

You were raised in one of the stations on or above Mars, now the most populated planet in the system. Your home town may or may not have survived the Fall.

Advantages: +10 Pilot: Groundcraft skill, +10 to one Technical, Academic: [Field], or Profession: [Field] skill of your choice, +20 Networking: Hypercorps skill

Disadvantages: None

Common Morphs: Flats, Splicers, and Rusters

Original Space Colonist

You, or your parents, were part of the first "generations" of colonists/workers sent out from Earth to stake a claim in space, so you are familiar with the cramped confines of spaceflight and life aboard older stations and habitats. As a "zero-one G" (zero-gravity, first-gen), you were never part of the elite. People from your background typically have some sort of specialized tech training as vacworkers or habtechs.

Advantages: +10 Pilot: Spacecraft or Freefall skill, +10 to a Technical, Academic: [Field], or Profession: [Field] skill of your choice, +20 to a Networking: [Field] skill of your choice

Disadvantages: None

Common Morphs: All. Use of exotic morphs is common.

Re-Instantiated

You were born and raised on Earth, but you did not survive the Fall. All that you know is that your body died there, but your backup was transmitted off-world, and you were one of the lucky few to be re-instantiated with a new morph. You may have spent years in dead storage, simulspace, or as an infomorph slave.

Advantages: +10 Pilot: Groundcraft skill, +10 to a Networking: [Field] skill of your choice, +2 Moxie

Disadvantages: Edited Memories trait, 0 Starting Credit (can still buy credit with CP)

Common Morphs: Cases, Infomorphs, Synths

Scumborn

You were raised in the nomadic and chaotic lifestyle common to Scum barges.

Advantages: +10 Persuasion or Deception skill, +10 Scrounging skill, +20 Networking: Autonomists skill

Disadvantages: None

Common Morphs: All, especially Bouncers

Uplift

You are not even human. You were born as an uplifted animal: chimpanzee, gorilla, orangutan, parrot, raven, crow, or octopus.

Advantages: +10 Fray skill, +10 Perception skill, +20 to two Knowledge skills of your choice

Disadvantages: Must choose an uplift morph to start

Common Morphs: Neo-Avian, Neo-Hominid, Octomorph

Choose Faction

After choosing your background, you now choose which primary faction your character belongs to. This faction most likely represents the grouping that controls your character's current home habitat/station, and to which your character holds allegiance, but this need not be the case. You may be a dissident member of your faction, living among them but opposing some (or all) of their core memes and perhaps agitating for change. Whatever the case, your faction defines how your character represents themself in the struggle between ideologies post-Fall.

You must choose one of the factions listed below. Like your character's background, it will provide your character with certain skills, traits, limitations, or other characteristics.

The factions presented here outline the most numerous and influential among transhumanity, but others may also exist. At your gamemaster's discretion, you may develop another starting faction with them not included on this list.

Anarchist

You are opposed to hierarchy, favoring flat forms of social organization and directly democratic decision-making. You believe power is always corrupting and everyone should have a say in the decisions that affect their lives. According to the primitive and restrictive policies of the Inner system and Jovian Junta, this makes you an irresponsible hoodlum at best and a terrorist at worst. In your opinion, that's comedy coming from governments that keep their populations in line with economic oppression and threats of violence.

Advantages: +10 to a skill of your choice, +30 Networking: Autonomists skill

Disadvantages: None

Common Morphs: All

Argonaut

You are part of a scientific techno-progressive movement that seeks to solve transhumanity's injustices and inequalities with technology. You support universal access to technology and healthcare, open source models of production, morphological freedom, and democratization. You try to avoid factionalism and divisive politics, seeing transhumanity's splintering as a hindrance to its perpetuation.

Advantages: +10 to two Technical, Academic: [Field], or Profession: [Field] skills; +20 Networking: Scientists

Disadvantages: None

Common Morphs: All

Barsoomian

You call the Martian outback and wilds your home. You are a "redneck," a lower-class Martian from the rural areas that often find themselves in conflict with

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

the policies and goals of the hypercorp domes and Tharsis League.

Advantages: +10 Freerunning, +10 to one skill of your choice, +20 Networking: Autonomists skill

Disadvantages: None

Common Morphs: Cases, Flats, Rusters, Splicers, Synths

BRINKER

You or your faction is reluctant to deal with the rest of the transhumanity and the various goings-on in the rest of the system. Your particular grouping may have sought out self-imposed isolation, to pursue their own interests, or they may have been exiled for their unpopular beliefs. Or you may simply be a loner who prefers the vast emptiness of space to socializing with others. You might be a religious cultist, a primitivist, a utopian, or something altogether uninterested in transhumanity.

Advantages: +10 Pilot: Spacecraft skill, +10 to a skill of your choice, +20 to a Networking: [Field] skill of your choice

Disadvantages: None

Common Morphs: All

CRIMINAL

You are involved with the crime-oriented underworld. You may work with one of the Sol system's major criminal factions—triads, the Night Cartel, the ID Crew, Nine Lives, Pax Familae—or one of the smaller, local operators with a big stake in a specific habitat. You might be a vetted member-for-life, a reluctant recruit, or just a freelancer looking for the next gig.

Advantages: +10 Intimidation skill, +30 Networking: Criminal skill

Disadvantages: None

Common Morphs: All

EXTROPIAN

You are an anarchistic supporter of the free market and private property. You oppose government and favor a system where security and legal matters are handled by private competitors. Whether you consider yourself an anarcho-capitalist or a mutualist (a difference only other Extropians can figure out), you occupy a middle-ground between the hypercorps and autonomists, dealing with both and yet trusted by neither.

Advantages: +10 Persuasion skill, +20 Networking: Autonomists skill, +10 Networking: Hypercorps skill

Disadvantages: None

Common Morphs: All

HYPERCORP

You hail from a habitat controlled by the hypercorps. You might be a hypercapitalist entrepeneur, a hedonistic socialite, or a lowly vacworker, but you accept that certain liberties must be sacrificed for security and freedom.

Advantages: +10 Protocol skill, +20 Networking: Hypercorps skill, +10 to any Networking: [Field] skill

Disadvantages: None

Common Morphs: Exalts, Olympians, Splicers, Sylphs

Jovian

Your faction is noted for its authoritarian regime, bioconservative ideologies, and militaristic tendencies. Where you come from, technology is not to be trusted to everyone and *humans* need to be protected from themselves. To ensure its survival, *humanity* must be able to defend itself, and unfettered growth must be checked.

Advantages: +10 to two weapon skills of your choice, +10 Fray, +20 Networking: Hypercorps skill

Disadvantages: Must start with a Flat or Splicer morph, may not start with any nanoware or advanced nanotech

Common Morphs: Flats and Splicers

Lunar

You hail from Luna, the original off-Earth colony world. Now overpopulated and in decline, Luna is one of the few places where people still cling to old-Earth ethnic and national identities. Your home is also within sight of Earth, a constant reminder that encourages many "Loonies" to be Reclaimers, deploring the hypercorp interdiction and arguing that you have a right to return to Earth, terraform it, and re-establish it as a living homeworld.

Advantages: +10 to one Language: [Field] of your choice, +20 Networking: Hypercorps skill, +10 Networking: Ecologists skill

Disadvantages: None

Common Morphs: Cases, Exalts, Flats, Splicers, Synths

Mercurial

Your faction has no interest in co-opting their true natures in order to become more "human." You might be an AGI that does not necessarily intertwine its destiny with transhumanity, or an uplift that seeks to preserve and promote non-human life (or at least your own species). You might even be an infomorph or posthuman who has strayed so far from transhuman interests and values that you now consider yourself to be forging a unique new path of life.

Advantages: +10 to any two skills of your choice, +20 to a Networking: [Field] skill of your choice

Disadvantages: None

Common Morphs: Infomorphs, Synths, uplift morphs

Scum

This is the future we've all been waiting for, and you're going to enjoy it to the max. A paradigm shift has occurred, and while everyone else is catching up, your faction embraces and revels in it. There is no more want, no more death, no more limits on what you can be. The scum have immersed themselves in a new way of life, changing themselves as they see fit, trying out new experiences, and pushing the boundaries wherever they can ... and fuck anyone who can't deal with that.

Advantages: +10 Freefall skill, +10 to a skill of your choice, +20 Networking: Autonomists skill

Disadvantages: None

Common Morphs: All

Socialite

You are a member of the inner system glitterati, the media-saturated social cliques that set trends, spread memes, and make or break lives with whispers, innuendo, and backroom deals. You are simultaneously an icon and a devout follower. Culture isn't just your life, it's your weapon of choice.

Advantages: +10 Persuasion skill, +10 Protocol skill, +20 Networking: Media skill

Disadvantages: May not start with flat, pod, uplift, or synthetic morphs

Common Morphs: Exalts, Olympians, Sylphs

Titanian

You are a participant in the Titanian Commonwealth's socialist cyberdemocracy. Unlike other autonomist projects, Titanian joint efforts have assembled some impressive infrastructural projects as approved by the Titanian Plurality and pursued by state-owned microcorps.

Advantages: +10 to two Technical or Academic skills of your choice, +20 Networking: Autonomists skill

Disadvantages: None

Common Morphs: All

Ultimate

Your faction sees the potential in transhumanity's future and looks back upon the rest of transhumanity as weak and hedonistic. Transhumanity is set to take the next evolutionary step and it's time for transhumans to be redesigned to the best of our capabilities.

Advantages: +10 to two skills of your choice, +20 to a Networking: [Field] skill of your choice

Disadvantages: May not start with Flat, Splicer, uplift, or pod morphs

Common Morphs: Exalts, Remades

Venusian

You are a supporter of the Morningstar Confederation of Venusian aerostats, resentful of the growing influence of the Planetary Consortium and other entrenched and conservative inner system powers. You see your faction's ascension as a chance to reform the old guard ways of inner system politics.

Advantages: +10 Pilot: Aircraft, +10 to one skill of your choice, +20 Networking: Hypercorps skill

Disadvantages: None

Common Morphs: Cases, Exalts, Mentons, Splicers, Sylphs, Synths

Spend Free Points

Each starting character receives an equal number of free points for things like rep and aptitudes. These free points are just the start for building your character, so don't fret if you can't get certain scores as high as you like. In the next stage of character creation, you will gain additional points with which you can customize your character (see *Spend Customization Points,* p. 135).

EXAMPLE

Tai is making a character. She decides to create a salvage retrieval/scavenger type who started as a Lunar Colonist but is now a Brinker. Together, her background and faction give Tai +20 Networking: Autonomists skill, +20 Networking: Hypercorps skill, +10 Pilot: Spacecraft skill, and +10 Pilot: Groundcraft skill. She also has +10 to two other skills (one Academic, Professional, or Technical) that she'll choose later.

Tai starts with 105 points for aptitudes, which works out to 15 each. She wants her character to be impulsive and antisocial, so right away she lowers both SAV and WIL to 10. She also wants to be smart and fast on her feet, so takes the extra 10 points that gives her and raises both COG and REF to 20. So her aptitudes are:

COG	COO	INT	REF	SAV	SOM	WIL
20	15	15	20	10	15	10

She marks down her Moxie of 1 and gets her native language (Chinese) at 85, both for free.

Noting her 5,000 Credits, Tai divides her Rep score points evenly among @-rep and c-rep, taking 25 in each.

EXAMPLE

Example continued on p. 137 ➡

STARTING APTITUDES

Your character receives 105 free points to distribute among their 7 aptitudes: Cognition, Coordination, Intuition, Reflexes, Savvy, Somatics, and Willpower (see *Aptitudes,* p. 123). (That breaks down to an average of 15 per aptitude, so it may be easiest to give each 15 and then adjust accordingly, raising some and lowering others.) Each aptitude must be given at least 5 points (unless you take the Feeble trait, see p. 149), and no aptitude may be raised higher than 30 (unless you take the Exceptional Aptitude trait, p. 146). Note that certain morphs (flats and splicers, for example) may also put a cap on how high your aptitudes may be (see *Aptitude Maximums,* p. 124).

For simplicity, it is recommended that aptitude scores be handled as multiples of 5, but this is not a necessity.

NATIVE TONGUE

Every character receives their natural Language skill at a rating of 70 + INT for free. This skill may be raised with CP (see below).

STARTING MOXIE

Every character starts off with a Moxie stat of 1 (see *Moxie,* p. 122).

CREDIT

All characters are given 5,000 credits with which to purchase gear during character creation, unless you have the Fall Evacuee or Re-instantiated background (in which case you start with 2,500 or 0 credits, respectively). See *Purchasing Gear,* p. 136, for more details.

REP

Your character isn't a complete newbie. You get 50 rep points to divide between the reputation networks of your choice (see *Reputation and Social Networks,* p. 285).

SPEND CUSTOMIZATION POINTS

Now that you have the basics of your character fleshed out, you can spend additional Customization Points (CP) to fine-tune your character. Each character is given 1,000 CP, which may be used to increase aptitudes, buy skills, acquire more Moxie, buy more credit, elevate your Rep, or purchase positive traits. You may also take on negative traits in order to get even more CP with which to customize your character. This customization process should be used to tweak your character and specialize them in the ways you desire.

If a gamemaster seeks a different level of gameplay, they can adjust this CP amount. If the gamemaster wants a scenario where the starting characters are younger or less experienced, they can lower the CP to 800 or even 700. On the other hand, if you want to create characters who start off as grizzled veterans, you can raise the CP to 1,100 or even 1,200.

Not all customizations are equal—aptitudes, for example, are considerably more valuable than individual skills. To reflect this, CP must be spent at a specific ratio according to the specific boost desired.

CUSTOMIZATION POINTS
15 CP = 1 Moxie point
10 CP = 1 aptitude point
5 CP = 1 psi sleight
5 CP = 1 specialization
2 CP = 1 skill point (61-80)
1 CP = 1 skill point (up to 60)
1 CP = 1,000 credit
1 CP = 10 Rep
Trait and morph costs vary as noted.

CUSTOMIZING APTITUDES

Raising your aptitude score is quite expensive at 10 CP per aptitude point. As noted above, no aptitude may be increased above 30. Keep in mind that your morph may also provide certain aptitude bonuses.

INCREASING MOXIE

Moxie may be raised at the cost of 15 CP per Moxie point. The maximum to which Moxie may be raised is 10.

Learned Skills

Each character must purchase a minimum of 400 skill points of Active skills and 300 skill points of Knowledge skills (see *Skills,* p. 170). Skills are bought at the cost of 1 CP per point. Keep in mind that learned skills start at the rating of the linked aptitude. For example, if you want to raise a skill to 30 and the skill's linked aptitude is 10, you'll need to spend 20 CP. Skill bonuses from background or faction should also be applied to the rating before you start raising the skill. For simplicity, it is recommended that skills be purchased as multiples of 5, but this is not a necessity.

Raising a skill over 60 is expensive. Each point over 60 costs double. Raising a skill with a linked attribute of 20 up to 70 would cost 60 CP: 40 points to get from 20 to 60, and 20 more points to get from 60 to 70.

No learned skill may be raised over 80 during character creation (unless you have the Expert trait, p. 146).

Though Knowledge skills are grouped into 5 skills, each is a field skill (p. 172), meaning that it can be taken multiple times with different fields.

A complete list of skills can be found on p. 176.

Specializations

Specializations (p. 173) may also be purchased at the cost of 5 CP per specialization. You may purchase specializations for both Active and Knowledge skills. Only 1 specialization may be purchased per skill, and they may only be bought for skills with a rating of 30+.

Buying More Credit

If you want more cred to spend on gear, every CP will get you 1,000 credits. See *Purchase Gear,* p. 136, for details on buying stuff. The maximum CP you can spend on additional credits is 100.

Increasing Rep

If you want your character to start play with lots of social capital, you can increase your Rep score(s) at the cost of 1 CP per 10 additional points. No individual Rep score may be raised above 80, and the maximum amount of CP that may be spent on Rep is 35 points.

Starting Morph

Perhaps the most important use of CP is to buy the morph with which your character begins play. This may be the original bodily form in which your character started life, or it may simply be the sleeve they are currently inhabiting.

Available morphs are listed starting on p. 139.

Note that any aptitude or skill bonuses provided by the morph are applied after all CP are spent. In other words, these bonuses do not affect the costs of buying aptitude and skill points during character generation. No aptitude may be modified over 40.

Purchasing Traits

Traits represent specific qualities your character has that may help or hinder them.

Positive traits supply bonuses in certain situations, and each has a listed CP cost. You may not spend more than 50 CP on positive traits.

Negative traits inflict disadvantages on your character, but they also give you extra CP that you can spend on customizing your character. You may not purchase more than 50 CP worth of negative traits, and no more than 25 CP may be negative morph traits.

Positive traits are listed on p. 145, negative traits on p. 148. Note that traits you receive from your background or faction do not cost or provide you with bonus CP.

Traits listed as morph traits apply to the morph, and not the ego. If the character switches to a new morph, these traits are lost (and new morph traits may be gained). Morph traits may be bought like other traits during character generation.

Psi Sleights

Characters who purchase the Psi trait (p. 147) may spend CP to purchase sleights (see *Sleights,* p. 223). These represent specific psi abilities the character has learned. The cost to buy a sleight is 5 CP. No more

vExample continued from p. 135

EXAMPLE

Tai now has 1,000 points to customize. She wants to be lucky, so she starts right off spending 60 (4 x 15) CP to raise her Moxie from 1 to 5. She also decides that she wants her character to be better at spotting things, so she raises her INT from 15 to 20, at a cost of 50 CP (5 x 10). So far, she's spent 110 CP.

She must buy at least 400 points of Active skills, so she tackles that next. She knows that skills are based on aptitudes and they get more expensive over 60, so she decides the most she'll spend on any single skill is 40 (since her highest aptitude is 20). She picks out her skills, assigns the points, and adds them to the starting aptitudes.

This is what she starts with, noting the points she spent on each and the total value (counting aptitude) in parentheses.

Beam Weapons (COO) 30 (45), Climbing (SOM) 30 (45), Demolitions (COG) 40 (60), Fray (REF) 30 (50), Freefall (REF) 40 (60), Freerunning (SOM) 30 (45), Hardware: Aerospace (COG) 40 (60), Infiltration (COO) 30 (45), Interfacing (COG) 20 (40), Navigation (INT) 40 (60), Perception (INT) 40 (60), Persuasion (SAV) 20 (30), Research (COG) 20 (40), and Scrounging (INT) 40 (60).

This costs her 450 CP, so she's spent a total of 560 CP so far.

Now she spends her 300 points of Knowledge skills:

Academics: Astrophysics (COG) 40 (60), Academics: Engineering (COG) 40 (60), Academics: Fall History (COG) 40 (60), Art: Sculpture (INT) 40 (60), Interest: Brinker Stations (COG) 40 (60), Interest: Conspiracies (COG) 30 (50), Language: English (INT) 40 (60), Profession: Appraisal (COG) 40 (60), Profession: Scavenger Trade (COG) 40 (60).

This costs her another 350 CP, bringing her total spent CP to 910.

Adding in her background and faction skills, she also has Networking: Autonomists (SAV) 30, Networking: Hypercorps (SAV) 30, Pilot: Spacecraft (REF) 30 (50), Pilot: Groundcraft (REF) 30 (50). She takes the freebie +10 and adds it to Fray (raising it to 60) and applies the other +10 to Academics: Economics (COG) 30.

With 90 CP left, Tai moves on to Rep. Tai wants to have a lot of good connections, so she raises both of her Rep scores by 30 points each, at a cost of 6 CP. She also decides she needs some credibility with criminal types, so she buys g-rep at 40, for 4 more CP. Now she has 80 CP left.

Tai's character needs a body, and she decides a bouncer is most suited for the nomadic, spacefaring lifestyle of her brinker. That costs another 40 CP, leaving her with 50 CP left to spend.

Looking back at her skills, she decides to raise her Pilot: Spacecraft from 50 to 70. It costs her 10 CP to raise the skill to 60, and another 20 CP to raise it from 60 to 70, for a total cost of 30 CP. She also wants to raise her Scrounging from 60 to 70, for a 20 CP cost. That nicely uses up the last of her CP.

Scanning the traits, though, Tai also decides that Situational Awareness would be a good choice for her scavenger. At a cost of 10 CP, she would need to take another negative trait to compensate. She chooses Neural Damage (synaesthesia)—a condition she inherited from a rampaging nanovirus during the Fall.

Tai's points are now all evened out and spent.

EXAMPLE

than 5 psi-chi and 5 psi-gamma sleights may be bought during character creation.

Note that any skill or aptitude bonuses from sleights are treated as modifications; they are applied after all CP are spent and do not affect the cost of buying skills or aptitudes during character creation.

PURCHASE GEAR

No matter what faction you are from, you use Credit to buy gear during character creation. A complete list of gear and costs can be found in the *Gear* chapter, p. 294. The average costs for each cost category should be used when calculating gear prices.

GEAR COSTS

CATEGORY	RANGE (CREDITS)	AVERAGE (CREDITS)
Trivial	1–99	50
Low	100–499	250
Moderate	500–1,499	1,000
High	1,500–9,999	5,000
Expensive	10,000+	20,000

Every character starts off with one piece of gear for free: a standard muse (p. 332). This is the digital AI companion that the character has had since they were a child. Additionally, each character starts with 1 month of backup insurance (p. 330) at no cost.

There is no limitation other than what the gamemaster allows on what gear characters can and cannot buy during character creation. Both the players and gamemaster should keep the character's background and faction in mind. Since some gear is likely very restricted in some habitats if not outright illegal, there needs to be a plausible explanation for who and how a character from such a place might have such gear. If there isn't, then the gamemaster can choose not to allow it. The starting locale for a game should also be considered. A character from the restrictive Jovian Republic might have a hard time explaining how they have an illegal cornucopia machine back in the Republic, but if the game takes place on board a scum barge where everything is available and anything goes, then such an explanation becomes much easier.

Note that any skill or aptitude bonuses from gear are treated as modifications; they are applied after all CP are spent and do not affect the cost of buying skills or aptitudes during character creation.

CHOOSE MOTIVATIONS

The next step is to choose 3 personal motivations for your character (see *Motivations,* p. 121). These are memes, in the form of ideologies or goals, which your character is pursuing. These may be as specific "undermine the local triad boss" or as broad as "promote hypercapitalism," and they may be short term or long term. Some sample motivations are provided on the Example Motivations table (p. 138). You should work with your gamemaster when choosing your motivations, as they can be used to propel the storyline forward and specific scenarios can be constructed around your character's goals. Some of your character's motivations may change later (see *Changing Motivation,* p. 152). Motivations will help your character regain Moxie (p. 122) and earn extra Rez Points during gameplay (p. 384).

Motivations should be listed on your character sheet as a single term or short phrase, along with a + or – symbol to denote whether they support or oppose it. For example, "+Fame" would indicate that your character seeks to become a famous media personality, whereas "–Reclaim Earth" means that your character opposes the goal of reclaiming Earth.

EXAMPLE MOTIVATIONS

Alien Contact
Anarchism
Artistic Expression
Bioconservatism
Education
Exploration
Fame
Fascism
Hedonism
Hypercapitalism
Immortality
Libertarianism
Martian Liberation
Morphological Freedom
Nano-ecology
Open Source
Personal Career
Personal Development
Philanthropy
Preservationism
Reclaiming Earth
Religion
Research
(AI/Infomorph/Pod/Uplift) Rights
(AI/Infomorph/Pod/Uplift) Slavery
Socialism
Techno-Progressivism
Vengeance
Venusian Sovereignty
Wealth

FINAL TOUCHES

Now that you have everything settled, there are a few final steps.

REMAINING STATS

A few stats now need to be calculated and added to your character sheet:

- **Lucidity** (p. 122) equals your character's WIL x 2.
- **Trauma Threshold** (p. 122) equals your LUC divided by 5 (round up).
- **Insanity Rating** (p. 122) equals LUC x 2.
- **Initiative** (p. 121) equals your character's (REF + INT) x 2.
- **Damage Bonus** (p. 123) for melee equals SOM ÷ 10 (round down).
- **Death Rating** (p. 122) equals DUR x 1.5 (biomorphs, round up) or DUR x 2 (synthmorphs)
- **Speed** (p. 121) equals 1 (3 for infomorphs), modified as appropriate by implants.

Detailing the Character

The final step in character creation is filling in the details and figuring out what your character is like and what they are all about. Your character's Background is a good place to start as it says where they came, but it could be expanded. What did they think of their childhood? Do they still have ties from there? How did they move from such origins to the Faction they are part of? Are they fully supportive of their Faction's goals, or are they in opposition? How does the character view other Factions?

Next, take a look at the skills and other defining points—these also tell a story. How did they acquire those skills? Why? How did they develop their Rep score (or lack of one)? How did they get connected with the groupings represented by their Networking skills? What do the character's traits say about them? How did they get their current morph? Is it their original? If not, what happened to their first body?

Also taking into account the major factor of Motivations, all of these questions will help you build a defining picture of your character. Not everything about your character needs to be filled out, of course—it's ok to leave a few blanks that you can fill in later. Assembling the points you have deduced so far will help you to present your character as a whole, unique individual, however, rather than just a blank template.

As a final step, take a few minutes to pick out some specific identifying features and personality quirks that will help you define the character to others. This could be a way of talking, a strongly-projected attitude, a catchphrase they use frequently, a unique look or style of dress, a repetitive behavior, an annoying mannerism, or anything else similar that is easy to latch onto. Such idiosyncrasies give something that other players can latch onto, spurring roleplaying opportunities.

Starting Morphs

Each morph has an associated CP cost. It also supplies the character's Durability and Wound Threshold stats, and may modify Initiative, Speed, and certain aptitudes and learned skills. A credit cost is also listed, but this refers to the cost of buying such a morph in gameplay.

Flexible Aptitude Bonuses: Some morphs have aptitude bonuses that may be applied to an aptitude of the player's choice. This reflects that not all morphs are created equal. When assigning these universal aptitude bonuses, each boost must be applied to a separate aptitude; you may not elevate an aptitude that is already raised by that morph. Once an individual morph's aptitude bonuses have been assigned, they are permanent for that morph (i.e., if another character resleeves into that morph, the bonuses remain the same).

Biomorphs

Biomorphs are fully biological sleeves (usually equipped with implants), birthed naturally or in an exowomb, and grown to adulthood either naturally or at a slightly accelerated rate.

Flats

Flats are baseline unmodified humans, born with all of the natural defects, hereditary diseases, and other genetic mutations that evolution so lovingly applies. Flats are increasingly rare—most died off with the rest of humanity during the Fall. Most new children are splicers—screened and genefixed at the least—except in habitats where flats are treated as second-class citizens and indentured labor.

Implants: None
Aptitude Maximum: 20
Durability: 30
Wound Threshold: 6
Disadvantages: None (Genetic Defects trait common)
CP Cost: 0
Credit Cost: High

Splicers

Splicers are genefixed humans. Their genome has been cleansed of hereditary diseases and optimized for looks and health, but has not otherwise been substantially upgraded. Splicers make up the majority of transhumanity.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack
Aptitude Maximum: 25
Durability: 30
Wound Threshold: 6
Advantages: +5 to one aptitude of the player's choice
CP Cost: 10
Credit Cost: High

Exalts

Exalt morphs are genetically-enhanced humans, designed to emphasize specific traits. Their genetic code has been tweaked to make them healthier, smarter, and more attractive. Their metabolism is modified to predispose them towards staying fit and athletic for the duration of an extended lifespan.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack
Aptitude Maximum: 30
Durability: 35
Wound Threshold: 7
Advantages: +5 COG, +5 to three other aptitudes of the player's choice
CP Cost: 30
Credit Cost: Expensive

Mentons

Mentons are genetically modified to increase cognitive abilities, particularly learning ability, creativity, attentiveness, and memory. Rumors exist of super-enhanced mentons with more extreme intelligence mods, but brain-hacking is notoriously difficult, and many attempts to redesign mental faculties result in impaired functioning, instability, or insanity.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Eidetic Memory, Hyper-Linguist, Math Boost
Aptitude Maximum: 30
Durability: 35
Wound Threshold: 7
Advantages: +10 COG, +5 INT, +5 WIL, +5 to one aptitude of the player's choice
CP Cost: 40
Credit Cost: Expensive

OLYMPIANS

Olympians are human upgrades with improved athletic capabilities like endurance, eye-hand coordination, and cardio-vascular functions. Olympians are common among athletes, dancers, freerunners, and soldiers.
Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack
Aptitude Maximum: 30
Durability: 40
Wound Threshold: 8
Advantages: +5 COO, +5 REF, +10 SOM, +5 to one other aptitude of the player's choice
CP Cost: 40
Credit Cost: Expensive

SYLPHS

Sylph morphs are tailor-made for media icons, elite socialites, XP stars, models, and narcissists. Sylph gene sequences are specifically designed for distinctive good looks. Ethereal and elfin features are common, with slim and lithe bodies. Their metabolism has also been sanitized to eliminate unpleasant bodily odors and their pheromones adjusted for universal appeal.
Implants: Basic Biomods, Basic Mesh Inserts, Clean Metabolism, Cortical Stack, Enhanced Pheromones
Aptitude Maximum: 30
Durability: 35
Wound Threshold: 7
Advantages: Striking Looks (Level 1) trait, +5 COO, +10 SAV, +5 to one other aptitude of the player's choice
CP Cost: 40
Credit Cost: Expensive

BOUNCERS

Bouncers are humans genetically adapted for zero-G and microgravity environments. Their legs are more limber, and their feet can grasp as well as their hands.
Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Grip Pads, Oxygen Reserve, Prehensile Feet
Aptitude Maximum: 30
Durability: 35
Wound Threshold: 7
Advantages: Limber (Level 1) trait, +5 COO, +5 SOM, +5 to one aptitude of the player's choice
CP Cost: 40
Credit Cost: Expensive

FURIES

Furies are combat morphs. These transgenic human upgrades feature genetics tailored for endurance, strength, and reflexes, as well as behavioral modifications for aggressiveness and cunning. To offset tendencies for unruliness and macho behavior patterns, furies feature gene sequences promoting pack mentalities and cooperation, and they tend to be biologically female.
Implants: Basic Biomods, Basic Mesh Inserts, Bioweave Armor (Light), Cortical Stack, Enhanced Vision, Neurachem (Level 1), Toxin Filters
Aptitude Maximum: 30
Speed Modifier: +1 (neurachem)
Durability: 50
Wound Threshold: 10
Advantages: +5 COO, +5 REF, +10 SOM, +5 WIL, +5 to one aptitude of the player's choice
CP Cost: 75
Credit Cost: Expensive (minimum 40,000)

FUTURAS

An exalt variant, futura morphs were specially crafted for the "Lost generation." Tailor-made for accelerated growth and adjusted for confidence, self-reliance, and adaptability, futuras were intended to help transhumanity regain its foothold. These programs proved disastrous and the line was discontinued, but some models remain, viewed by some with distaste and others as collectibles or exotic oddities.
Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Eidetic Memory, Emotional Dampers
Aptitude Maximum: 30
Durability: 35
Wound Threshold: 7
Advantages: +5 COG, +5 SAV, +10 WIL, +5 to one other aptitude of the player's choice
CP Cost: 40
Credit Cost: Expensive (exceptionally rare; 50,000+)

GHOSTS

Ghosts are partially designed for combat applications, but their primary focus is stealth and infiltration. Their genetic profile encourages speed, agility, and reflexes, and their minds are modified for patience and problem-solving.
Implants: Basic Biomods, Basic Mesh Inserts, Chameleon Skin, Cortical Stack, Adrenal Boost, Enhanced Vision, Grip Pads
Aptitude Maximum: 30
Durability: 45
Wound Threshold: 9
Advantages: +10 COO, +5 REF, +5 SOM, +5 WIL, +5 to one aptitude of the player's choice
CP Cost: 70
Credit Cost: Expensive (minimum 40,000)

HIBERNOIDS

Hibernoids are transgenic-modified humans with heavily-altered sleep patterns and metabolic processes. Hibernoids have a decreased need for sleep, requiring

only 1-2 hours a day on average. They also have the ability to trigger a form of voluntary hibernation, effectively stopping their metabolism and need for oxygen. Hibernoids make excellent long-duration space travelers and habtechs, but these morphs are also favored by personal aides and hypercapitalists with non-stop lifestyles.

Implants: Basic Biomods, Basic Mesh Inserts, Circadian Regulation, Cortical Stack, Hibernation
Aptitude Maximum: 25
Durability: 35
Wound Threshold: 7
Advantages: +5 INT, +5 to one aptitude of the player's choice
CP Cost: 25
Credit Cost: Expensive

NEOTENICS

Neotenics are transhumans modified to retain a child-like form. They are smaller, more agile, inquisitive, and less resource-depleting, making them ideal for habitat living and spacecraft. Some people find neotenic sleeves distasteful, especially when employed in certain media and sex work capacities.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack
Aptitude Maximum: 20 (SOM), 30 (all else)
Durability: 30
Wound Threshold: 6
Advantages: +5 COO, +5 INT, +5 REF, +5 to one aptitude of the player's choice; neotenics count as a small target (–10 modifier to hit in combat)
Disadvantages: Social Stigma (Neotenic) trait
CP Cost: 25
Credit Cost: Expensive

REMADE

The remade are completely redesigned humans: humans 2.0. Their cardiovascular systems are stronger, the digestive tract has been sanitized and restructured to eliminate flaws, and they have otherwise been optimized for good health, smarts, and longevity with numerous transgenic mods. The remade are popular with the ultimates faction. The remade look close to human, but are different in very noticeable and sometimes eerie ways: taller, lack of hair, slightly larger craniums, wider eyes, smaller noses, smaller teeth, and elongated digits.

Implants: Basic Biomods, Basic Mesh Inserts, Circadian Regulation, Clean Metabolism, Cortical Stack, Eidetic Memory, Enhanced Respiration, Temperature Tolerance, Toxin Filters
Aptitude Maximum: 40
Durability: 40
Wound Threshold: 8
Advantages: +10 COG, +5 SAV, +10 SOM, +5 to two other aptitudes of the player's choice
Disadvantages: Uncanny Valley trait
CP Cost: 60
Credit Cost: Expensive (minimum 40,000+)

RUSTERS

Adapted for survival with minimum gear in the not-yet-terraformed Martian environment, these transgenic morphs feature insulated skin for more effective thermoregulation and respiratory system improvements to require less oxygen and filter carbon dioxyde, among other mods.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Enhanced Respiration, Temperature Tolerance
Aptitude Maximum: 25
Durability: 35
Wound Threshold: 7
Advantages: +5 SOM, +5 to one aptitude of the player's choice
CP Cost: 25
Credit Cost: Expensive

NEO-AVIANS

Neo-avians include ravens, crows, and gray parrots uplifted to human-level intelligence. Their physical sizes are much larger than their non-uplifted cousins (to the size of a human child), with larger heads for their increased brain size. Numerous transgenic modifications have been made to their wings, allowing them to retain limited flight capabilities at 1 g, but giving them a more bat-like physiology so they can bend and fold better, and adding primitive digits for basic tool manipulation. Their toes are also more articulated and now accompanied with an opposable thumb. Neo-avians have adapted well to microgravity environments, and are favored for their small size and reduced resource use.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack
Aptitude Maximum: 25 (20 SOM)
Durability: 20
Wound Threshold: 4
Advantages: Beak/Claw Attack (1d10 DV, use Unarmed Combat skill), Flight, +5 INT, +10 REF, +5 to one other aptitude of the player's choice
CP Cost: 25
Credit Cost: Expensive

NEO-HOMINIDS

Neo-hominids are uplifted chimpanzees, gorillas, and orangutans. All feature enhanced intelligence and bipedal frames.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack
Aptitude Maximum: 25
Durability: 30
Wound Threshold: 6
Advantages: +5 COO, +5 INT, +5 SOM, +5 to one other aptitude of the player's choice, +10 Climbing skill
CP Cost: 25
Credit Cost: Expensive

OCTOMORPHS

These uplifted octopi sleeves have proven quite useful in zero-gravity environments. They retain eight arms,

their chameleon ability to change skin color, ink sacs, and a sharp beak. They also have increased cranial capacity and longevity, can breathe both air and water, and lack a skeletal structure so they can squeeze through tight spaces. Octomorphs typically crawl along in zero-gravity using their arm suckers and expelling air for propulsion and can even walk on two of their arms in low gravity. Their eyes have been enhanced with color vision, provide a 360-degree field of vision, and they rotationally adjust to keep the slit-shaped pupil aligned with "up." A transgenic vocal system allows them to speak.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Chameleon Skin
Aptitude Maximum: 30
Durability: 30
Wound Threshold: 6
Advantages: 8 Arms, Beak Attack (1d10 DV, use Unarmed Combat skill), Ink Attack (blinding, use Exotic Ranged: Ink Attack skill), Limber (Level 2) trait, 360-degree Vision, +30 Swimming skill, +10 Climbing skill, +5 COO, +5 INT, +5 to one other aptitude of the player's choice
CP Cost: 50
Credit Cost: Expensive (minimum 30,000+)

PODS

Pods (from "pod people") are vat-grown, biological bodies with extremely undeveloped brains that are augmented with an implanted computer and cybernetics system. Though typically run by an AI, pods are socially unfavored in some stations, utilized in slave labor in others, and even illegal in some areas. Because pods underwent accelerated growth in their creation, and were mostly grown as separate parts and then assembled, their biological design includes some shortcuts and limitations, offset with implants and regular maintenance. They lack reproductive capabilities. In many habitats, their legal status is a hotly-contested issue.

Unless otherwise noted, pods are also considered *biomorphs* for all rules purposes.

PLEASURE PODS

Pleasure pods are exactly what they seem—faux humans designed purely for intimate entertainment purposes. Pleasure pods have extra nerve clusters in their erogenous zones, fine motor control over certain muscle groups, enhanced pheromones, sanitized metabolisms, and the genetics for purring. Naturally, they are crafted for good looks and charisma and enhanced in other areas as well. Pleasure pods are capable of switching their sex at will to male, female, hermaphrodite, or neuter.

Implants: Basic Biomods, Basic Mesh Inserts, Clean Metabolism, Cortical Stack, Cyberbrain, Enhanced Pheromones, Mnemonic Augmentation, Puppet Sock, Sex Switch
Aptitude Maximum: 30
Durability: 30
Wound Threshold: 6
Advantages: +5 INT, +5 SAV, +5 to one aptitude of the player's choice
Disadvantages: Social Stigma (Pleasure Pod) trait
CP Cost: 20
Credit Cost: High

WORKER PODS

Part exalt human, part machine, these basic pods are virtually indistinguishable from humans. Worker pods are often used in menial labor jobs where interaction with humans is necessary.

Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Mnemonic Augmentation, Puppet Sock
Aptitude Maximum: 30
Durability: 35
Wound Threshold: 7
Advantages: +10 SOM, +5 to one aptitude of the player's choice
Disadvantages: Social Stigma (Pod) trait
CP Cost: 20
Credit Cost: High

NOVACRAB

Novacrabs are a pod design bio-engineered from coconut crab and spider crab stock and grown to a larger (human) size. Novacrabs are ideal for hazardous work environments as well as vacworker, police, or bodyguard duties, giving their ten 2-meter long legs, massive claws, and chitinous armor. They climb and handle microgravity well and can withstand a wide range of atmospheric pressure (and sudden pressure changes) from vacuum to deep sea. Novacrabs feature

compound eyes (with human-equivalent image resolution), gills, dexterous manipulatory digits on their fifth set of limbs, and transgenic vocal cords.

Implants: Basic Biomods, Basic Mesh Inserts, Carapace Armor, Cortical Stack, Cyberbrain, Enhanced Respiration, Gills, Mnemonic Augmentation, Oxygen Reserve, Puppet Sock, Temperature Tolerance, Vacuum Sealing

Aptitude Maximum: 30

Durability: 40

Wound Threshold: 8

Advantages: 10 legs, Carapace Armor (11/11), Claw Attack (DV 2d10), +10 SOM, +5 to two other aptitudes of the player's choice

CP Cost: 60

Credit Cost: Expensive (minimum 30,000+)

SYNTHETIC MORPHS

Synthetic morphs are completely artificial/robotic. They are usually operated by AIs or via remote control, but the lack of available biomorphs after the Fall meant that many infugees resorted to resleeving in robotic shells, which were also cheaper, quicker to manufacture, and more widely available. Nevertheless, synthmorphs are viewed with disdain in many habitats, an option that only the poor and desperate accept to be sleeved in. Synthetic morphs are not without with their advantages, however, and so are commonly used for menial labor, heavy labor, habitat construction, and security services.

All synthmorphs have the following advantages:

- **Lack of Biological Functions.** Synthmorphs need not be bothered with trivialities like breathing, eating, defecating, aging, sleeping, or any similar minor but crucial aspects of biological life.
- **Pain Filter.** Synthmorphs can filter out their pain receptors, so that they are unhampered by wounds or physical damage. This allows them to ignore the –10 modifier from 1 wound (see *Wound Effects,* p. 207), but they suffer –30 on any tactile-based Perception Tests and will not even notice they have been damaged unless they succeed in a (modified) Perception Test.
- **Immunity to Shock Weapons.** Synthmorphs have no nervous system to disrupt, and their optical electronics are carefully shielded from interference. Shock attacks may temporarily disrupt their wireless radio communications, however, for the duration of the attack.
- **Environmental Durability.** Synthmorphs are built to withstand a wide range of environments, from dusty Mars to the oceans of Europa to the vacuum of space. They are unaffected by any but the most extreme temperatures and atmospheric pressures. Treat as Temperature Tolerance (p. 305) and Vacuum Sealing (p. 305).
- **Toughness.** Synthetic shells are made to last—a fact reflected in their higher Durability and built-in Armor ratings. Their composition also makes their physical strikes more damaging: apply a +2 DV modifier on unarmed attacks for human-sized shells and larger.

CASE

Cases are extremely cheap, mass-produced robotic shells intended to provide an affordable remorphing option for the millions of infugees created by the Fall. Though many varieties of case bot models exist, they are uniformly regarded as shoddy and inferior. Most case morphs are vaguely anthromorphic, with a thin framework body, standing just shorter than an average human, and suffer from frequent malfunctions.

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Mnemonic Augmentation

Mobility System (Movement Rate): Walker (4/16)

Aptitude Maximum: 20

Durability: 20

Wound Threshold: 4

Advantages: Armor (4/4)

Disadvantages: –5 to one chosen aptitude, Lemon trait, Social Stigma (Clanking Masses) trait

CP Cost: 5

Credit Cost: Moderate

SYNTH

Synths are anthromorphic robotic shells (androids and gynoids). They are typically used for menial labor jobs where pods are not as good of an option. Cheaper than many other morphs, they are commonly used for people who need a morph quickly and cheaply or simply on a transient basis. Though they look humanoid, synths are easily recognizable as non-biological unless they have the synthetic mask option (p. 311).

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Mnemonic Augmentation

Mobility System: Walker (4/20)

Aptitude Maximum: 30

Durability: 40

Wound Threshold: 8

Advantages: +5 SOM, +5 to one other aptitude of the player's choice, Armor 6/6

Disadvantages: Social Stigma (Clanking Masses) trait, Uncanny Valley trait

CP Cost: 30

Credit Cost: High

ARACHNOIDS

Arachnoid robotic shells are 1-meter in length, segmented into two parts, with a smaller head, like a spider or termite. They feature four pairs of 1.5-meter-long retractable arms/legs, capable of rotating around the axis of the body, with built-in hydraulics for propelling the bot with small leaps. The manipulator claws on each arm/leg can be switched out with extendable mini-wheels for high-speed skating

movement. A smaller pair of manipulator arms near the head allows for closer handling and tool use. In zero-G environments, arachnoids can retract their arms/legs and maneuver with vectored air thrusters.

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Enhanced Vision, Extra Limbs (6 Arms/Legs), Lidar, Mnemonic Augmentation, Pneumatic Limbs, Radar
Mobility System: Walker (4/24), Thrust Vector (8/40)
Aptitude Maximum: 30
Durability: 40
Wound Threshold: 8
Advantages: +5 COO, +10 SOM, Armor 8/8
CP Cost: 45
Credit Cost: Expensive (minimum 40,000+)

DRAGONFLY

The dragonfly robotic morph takes the shape of a meter-long flexible shell with multiple wings and manipulator arms. Capable of near-silent turbofan-aided flight in Earth gravity, dragonfly bots fare even better in microgravity.

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Mnemonic Augmentation
Mobility System: Winged (8/32)
Aptitude Maximum: 30 (20 SOM)
Durability: 25
Wound Threshold: 5
Advantages: Flight, +5 REF, Armor (2/2)
CP Cost: 20
Credit Cost: High

FLEXBOTS

Designed for multi-purpose functions, flexbots can transform their shells to suit a range of situations and tasks. Their core frame consists of a half-dozen interlocking and shape-adjustable modules capable of auto-transforming into a variety of shapes: multi-legged walker, tentacle, hovercraft, and many others. Each module features its own sensor units and "bush robot" fractal-branching digits (each capable of breaking into smaller digits, down to the micrometer scale, allowing for ultra-fine manipulation). The flexbot control computer is also distributed between modules. Individual flexbots are only the size of a large dog, but multiple flexbots can join together for larger mass operations, even taking on heavy-duty tasks such as demolition, excavation, manufacturing, robotics assembly, and so on.

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Fractal Digits, Mnemonic Augmentation, Modular Design, Shape Adjusting
Mobility System: Walker (4/16), Hover (8/40)
Aptitude Maximum: 30
Durability: 25
Wound Threshold: 5
Advantages: Armor 4/4
CP Cost: 20
Credit Cost: Expensive (minimum 30,000+)

REAPER

The reaper is a common combat bot, used in place of biomorph soldiers and typically operated via teleoperation or by autonomous AI. The reaper's core form is an armored disc, so that it can turn and present a thin profile to an enemy. It uses vector thrust nozzles to maneuver in microgravity, and also takes advantage of an ionic drive for fast movement over distance. Four legs/manipulating arms and four weapon pods are folded inside its frame. The reaper's shell is made of smart materials, allowing these limbs and weapon mounts to extrude in any direction desired and even to change shape and length. In gravity environments, the reaper walks or hops on two or four of these limbs. Reapers are infamous due to numerous war XPs, and bringing one into most habitats will undoubtedly raise eyebrows, if not get you arrested.

Enhancements: 360-Degree Vision, Access Jacks, Anti-Glare, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Cyber Claws, Extra Limbs (4), Heavy Combat Armor, Magnetic System, Pneumatic Limbs, Puppet Sock, Radar, Reflex Booster, Shape Adjusting, Structural Enhancement, T-Ray Emitter, Weapon Mount (Articulated, 4)
Mobility System: Walker (4/20), Hopper (4/20), Ionic (12/40), Vectored Thrust (4/20)
Aptitude Maximum: 40
Speed Modifier: +1 (Reflex Booster)
Durability: 50 (60 with Structural Enhancement)
Wound Threshold: 10 (12 w/Structural Enhancement)
Advantages: 4 Limbs, +5 COO, +10 REF (+20 with Reflex Booster), +10 SOM, Armor 16/16
CP Cost: 100
Credit Cost: Expensive (minimum 50,000+)

SLITHEROIDS

Slitheroid bots are synthetic shells taking the form of a 2-meter-long segmented metallic snake, with two retractable arms for tool use. Snake bots can coil, twist, and roll their bodies into a ball or hoop, moving either by slithering, burrowing, rolling, or pulling themselves along by their arms. The sensor suite and control computer are housed in the head.

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Enhanced Vision, Mnemonic Augmentation
Mobility System: Snake (4/16; 8/32 rolling)
Aptitude Maximum: 30
Durability: 45
Wound Threshold: 9
Advantages: +5 COO, +5 SOM, +5 to one other aptitude of the player's choice, Armor 8/8
CP Cost: 40
Credit Cost: Expensive

SWARMANOID

The swarmanoid is not a single shell per se, but rather a swarm of hundreds of insect-sized robotic microdrones. Each individual "bug" is capable of crawling, rolling, hopping several meters, or using nanocopter

fan blades for airlift. The controlling computer and sensor systems are distributed throughout the swarm. Though the swarm can "meld" together into a roughly child-sized shape, the swarm is incapable of tackling physical tasks like grabbing, lifting, or holding as a unit. Individual bugs are quite capable of interfacing with electronics.

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Mnemonic Augmentation, Swarm Composition
Mobility System: Walker (2/8), Hopper (4/20), Rotor (4/32)
Aptitude Maximum: 30
Durability: 30
Wound Threshold: 6
Advantages: See *Swarm Composition* (p. 311)
Disadvantages: See *Swarm Composition* (p. 311)
CP Cost: 25
Credit Cost: Expensive

INFOMORPHS

Infomorphs are digital-only forms—they lack a physical body. Infomorphs are sometimes carried by other characters instead of (or in addition to) a muse in a ghostrider module (p. 307). Full rules for infomorphs can be found on p. 264.

Enhancements: Mnemonic Augmentation
Aptitude Maximum: 40
Speed Modifier: +2
Disadvantages: No physical form
CP Cost: 0
Credit Cost: 0

TRAITS

Unless otherwise noted, listed traits are ego traits.

POSITIVE TRAITS

Positive traits provide bonuses to the character in certain situations.

ADAPTABILITY

Cost: 10 (Level 1) or 20 (Level 2) CP

Resleeving is a breeze for this character. They adjust to new morphs much more quickly than most other people. Apply a +10 modifier per level for Integration Tests and Alienation Tests (p. 272).

ALLIES

Cost: 30 CP

The character is part of or has a relationship with some influential group that they can occasionally call on for support. For example, this could be their old gatecrashing crew, former research lab co-workers, a criminal cartel they are part of, or an elite social clique. The gamemaster and player should work out what the character's relationship is with this group, and why the character can call on them for aid. Gamemaster's should take care that these allies are not abused, such as calling on them more than once per game session. The character's ties to this group are also a two-way street—they will be expected to perform duties for the group on occasion as well (a potential plot seed for scenarios).

AMBIDEXTROUS

Cost: 10 CP

The character can use and manipulate objects equally well with both hands (they do not suffer the off-hand modifier, as noted on p. 193). If the character has other prehensile limbs (feet, tail, tentacles, etc), this trait may be applied to a limb other than the hand. This trait may be taken multiple times for multiple limbs.

ANIMAL EMPATHY

Cost: 5 CP

The character has an instinctive feel for handling and working with non-sapient animals of all kinds. Apply a +10 modifier to Animal Handling skill tests or whenever the character makes a test to influence or interact with an animal.

BRAVE

Cost: 10 CP

This character does not scare easily, and will face threats, intimidation, and certain bodily harm without flinching. As a side effect, the character is not always the best at gauging risks, especially when it comes to factoring in danger to others. The character receives a +10 modifier on all tests to resist fear or intimidation.

COMMON SENSE

Cost: 10 CP

The character has an innate sense of judgment that cuts through other distractions and factors that might cloud a decision. Once per game session, the player may ask the gamemaster what choice they should make or what course of action they should take, and the gamemaster should give them solid advice based on what the character knows. Alternately, if the character is about to make a disastrous decision, the gamemaster can use the character's free hint and warn the player they are making a mistake.

DANGER SENSE

Cost: 10 CP

The character has an intuitive sixth sense that warns them of imminent threats. They receive a +10 modifier on Surprise Tests (p. 204).

DIRECTION SENSE

Cost: 5 CP

Somehow the character always knows which way is up, north, etc., even when blinded. The character receives a +10 modifier for figuring out complex directions, reading maps, and remembering or retracing a path they have taken.

Eidetic Memory (Ego or Morph Trait)

Cost: 10 CP

Much like a computer, the character has perfect memory recall. They can remember anything they have sensed, often even from a single glance. This works the same as the eidetic memory implant (p. 301).

Exceptional Aptitude

Cost: 20 CP

The character may raise one of their maximum aptitude up to 10 points over the normal aptitude cap (30 for flats, 35 for splicers, 40 for all others). Note that this trait just raises the maximum, it does not give the character more 10 aptitude points. This trait may be taken only once.

Expert

Cost: 10 CP

The character is a legend in the use of one particular skill. The character may raise one learned skill over 80, to a maximum of 90, during character creation. This trait does not actually increase the skill, it just raises the maximum. This trait may only be taken once.

Fast Learner

Cost: 10 CP

The character improves skills and learns new ones in half the time it normally takes (see *Improving Skills,* p. 152).

First Impression

Cost: 10 CP

The character has a way of charming or otherwise making a good impression the first time they interact with someone. This innate social lubricant allows them to more readily deal with new contacts and slip right into new social environments. Apply a +10 modifier on social skill tests when the character is interacting with another character for the first time only.

Hyper Linguist

Cost: 10 CP

The character has an intuitive understanding of linguistic structures that facilitates learning new languages easily. The character requires one-third the normal amount of time and experience to learn any language (see *Improving Skills,* p. 152). The character can also learn any human language in one day simply by constant immersive exposure to it. Additionally, the character receives a +10 modifier when attempting to interpret languages they don't know.

Improved Immune System (Morph Trait)

Cost: 10 (Level 1) or 20 (Level 2) CP

The morph's immune system is robust and more resistant to diseases, drugs, and toxins—even more than basic bio-mods. At Level 1, apply a +10 modifier whenever making a test to resist infection or the effects of a toxin or drug. At Level 2, increase this modifier to +20. This trait is only available to biomorphs.

Innocuous (Morph Trait)

Cost: 10 CP

In an age when exotic appearances and good looks are commonplace, the morph's look is surprisingly bland and undistinguished, in that cookie cutter sort of way. The character's physical looks are so mundane that others have a hard time picking them out of a crowd, describing their appearance, or otherwise remembering physical details. Apply a –10 modifier to all tests made to spot, describe, or remember the character. This modifier does not apply to psi or mesh searches.

Limber (Morph Trait)

Cost: 10 (Level 1) or 20 (Level 2) CP

The morph is especially flexible and supple, capable of graceful contortions and interesting positions. At Level 1, the character can smoke with their toes, do the splits, and squeeze into small, cramped spaces. At Level 2, they are double-jointed escape artists. Each level provides a +10 modifier to escaping from bonds, fitting into narrow confines, and other acts relying on contortion or flexibility. This trait is only available to biomorphs.

Math Wiz

Cost: 10 CP

The character can perform any feat of calculation, including the most complex and advanced mathematics, instantly and with great precision, with the same ease an unmodified human can add 2 + 3. The character can calculate odds with great precision, find correlations in numerical data, and perform similar tasks with great ease. Apply a +30 modifier on tests involving math calculations.

Natural Immunity (Morph Trait)

Cost: 10 CP

The morph has a natural immunity to a specific drug, disease, or toxin. When afflicted with that specific chemical, poison, or pathogen, the character remains unaffected. At the gamemaster's discretion, this immunity may not apply to certain agents. It may not be applied to nanodrugs or nanotoxins. This trait is only available to biomorphs.

Pain Tolerance (Ego or Morph Trait)

Cost: 10 (Level 1) or 20 (Level 2) CP

The character has a high threshold for pain tolerance and is better at ignoring the effects of pain on their abilities and concentration. Level 1 allows them to ignore the –10 modifier from 1 wound. Level 2 allows them to ignore the –10 modifiers from 2 wounds. This trait is only available for biomorphs.

Patron

Cost: 30 CP

The character has an influential person in their life who can be relied on for occasional support. This could be a wealthy hyperelite family member, a high-ranking triad boss, or an anarchist networker with an unbeatable reputation. When called upon,

this patron can pull strings on the character's behalf, supply resources, introduce them to people they need to know, and bail them out of trouble. The player and gamemaster should work together to define exactly who this NPC is and what their relationship with the player character is. Specifically, the question of why this patron is supporting the character should be answered (familial obligation? childhood buddies? the character saved their life once?). Gamemasters should be careful that this trait does not get abused. The patron should be an occasional help (probably no more than once per game session at most) but is not always at the character's beck-and-call. If the character asks for too much, too often, they should find the patron's support drying up. Additionally, the character may need to take action to maintain the relationship, such as undertaking a mission on the patron's behalf. In fact, the character may only have their patronage because they are on-call or of use to the NPC in some way.

PSI

Cost: 20 CP (Level 1), 25 CP (Level 2)

The character has been infected with the Watts-MacLeod strain of the Exsurgent virus, which altered their brain structure and opened the potential for their mind to enhance their cognitive abilities and read and manipulate the biological minds of others (see *Psi,* p. 220). The character may purchase and learn psi sleights (p. 223). At Level 1, the character may only use psi-chi sleights. At Level 2, the character may use both psi-chi and psi-gamma sleights.

Though this trait is not very expensive, gamemasters should not allow it to be abused. There are a number of negative side effects to Watts-MacLeod infection, noted under *Psi Drawbacks,* p. 220.

PSI CHAMELEON (EGO OR MORPH TRAIT)

Cost: 10 CP

The character's mental state is naturally resistant to psi sensing. Apply a –10 modifier to any attempts to locate or detect the character via psi sleights.

PSI DEFENSE (EGO OR MORPH TRAIT)

Cost: 10 (Level 1) or 20 (Level 2) CP

The character's mind is inherently resistant to mental attacks. At Level 1, apply a +10 modifier to all defense tests made against psi attacks. At Level 2, apply a +20 modifier.

RAPID HEALER (MORPH TRAIT)

Cost: 10 CP

The morph recovers from damage more quickly. Reduce the timeframes for healing by half, as noted on the Healing table, p. 208. This trait is only available to biomorphs.

RIGHT AT HOME

Cost: 10 CP

The character chooses one type of morph (splicer, neo-hominid, case, etc.). The character always feels right at home in morphs of this type. When resleeving into this type of morph, the character automatically adjusts to the new body, no Integration or Alienation Test needed, suffering no penalties and no mental stress.

SECOND SKIN

Cost: 15 CP

If your character background or faction enforces a restriction on your starting morph (for example, uplifts must start with an uplift morph), this trait allows you to ignore that restriction and purchase a starting morph of your choice.

Situational Awareness

Cost: 10 CP

The character is very good at maintaining continuous partial awareness of the goings-on in their immediate environment. In game terms, they do not suffer the Distracted modifier on Perception Tests to notice things even when their attention is focused elsewhere, or when making Quick Perception Tests during combat.

Striking Looks (Morph Trait)

Cost: 10 (Level 1) or 20 (Level 2) CP

In an age where biosculpting is easy, good looks are both cheap and commonplace. This morph, however, possesses a physical look that can only be described as striking and unusual, but also somehow alluring and fascinating—even the gorgeous and chiseled glitterati take notice. On social skill tests where the character's beauty may affect the outcome, they receive a +10 (for Level 1) or +20 (for Level 2) modifier. This modifier is ineffective against xenomorphs or those with the infolife or uplift backgrounds. This trait is only available to biomorphs.

This modifier may be purchased for uplift morphs, but at half the cost, and it is only effective against characters with that specific uplift background (i.e., neo-avians, neo-hominids, etc.).

The one drawback to this trait is that the character is more easily noticed and remembered.

Tough (Morph Trait)

Cost: 10 (Level 1), 20 (Level 2), or 30 (Level 3) CP

This morph is resilient than others of its type and can take more physical abuse. Increase their Durability by +5 per level (+5 at Level 1, +10 at Level 2, and +15 at Level 3). This also increases Wound Threshold by +1, +2, and +3 respectively.

Zoosemiotics

Cost: 5

A character with this trait and the Psi trait does not suffer a modifier when using psi sleights on non-sentient or partly-sentient animal species.

Negative Traits

Negative traits generally hinder the character and apply negative modifiers in certain circumstances.

Addiction (Ego or Morph Trait)

Bonus: 5 CP (Minor), 10 CP (Moderate), or 20 CP (Major)

Addiction comes in two forms: mental (affecting the ego) and physical (affecting the biomorph). The character or morph is addicted to a drug (p. 317), stimulus (XP), or activity (mesh use) to a degree that impacts the character's physical or mental health. Players and gamemasters should work together to agree on addictions that are appropriate for their game. Addiction comes in three levels of severity: minor, moderate, or major:

Minor: A minor addiction is largely kept under control—it does not ruin the character's life, though it may create some difficulties. The character may not even recognize or admit they have a problem. The character must indulge the addiction at least once a week, though they can go for longer without too much difficulty. If they fail to get their weekly dose, they suffer a –10 modifier on all actions until they get their fix.

Moderate: A moderate addiction is in full swing. The character obviously has a problem, and must satisfy the addiction at least once a day. If they fail to do so, they may suffer mood swings, compulsive behavior, physical sickness, or other side effects until they indulge their craving. Apply a –20 modifier to all of the character's actions until they get their fix. Additionally, a character with this level of addiction suffers a –5 DUR penalty.

Major: A character with a major addiction is on the rapid road to ruin. They face cravings every 6 hours, and suffer a –10 DUR penalty as their health is affected. If they fail to get their regular dosage, they suffer a –30 modifier on all actions until they do. If their life hasn't already been ruined by their obsession, it soon will be.

Aged (Morph Trait)

Bonus: 10 CP

The morph is physically aged, and has not been rejuvenated. Old morphs are increasingly uncommon, though some people adopt them hoping to gain an air of seniority and respectability. Reduce the character's aptitude maximums by 5, and apply a –10 modifier on all physical actions.

This trait may only be applied to flat and splicer morphs.

Bad Luck

Bonus: 30 CP

Due to some inexplicable cosmic coincidence, things seem to go wrong around the character. The gamemaster is given a pool of Moxie points equal to the character's Moxie stat, which also refreshes at the same rate as the character's Moxie. Only the gamemaster may utilize this Moxie, however, and the purpose is to use it *against* the character. In other words, the gamemaster can use this bad Moxie to cause the character to automatically fail, flip-flop a roll, and so on. To reflect the black cloud that follows the character, the gamemaster can even use this bad Moxie against the character's friends and allies, when they are doing something with or related to the character, though this should be used sparingly. Gamemasters who might be reluctant to sabotage the character should remember that the player asked for it by purchasing this trait.

Blacklisted

Bonus: 5 or 20 CP

The character has managed to get themselves blacklisted in certain circles, whether they actually did something to deserve it or not. In game terms, the character is barred from having a Rep score higher than 0 in one particular reputation network. People within that network will refuse to help the character out of fear of reprisals and ruining their own reputation. The bonus for this trait is 20 CP if chosen for the rep network pertaining to the character's own starting faction, and 5 CP if chosen for any other.

Black Mark

Bonus: 10 (Level 1), 20 (Level 2), or 30 (Level 3) CP

At some point in the character's past, they managed to do something that earned a black mark on their reputation. For some reason, no matter what they do, this black mark cannot be shaken off and continues to haunt their interactions. In game terms, the character picks one faction. Every time they interact with this faction (such as a Networking Test) or with an NPC from this faction (Social Skill Tests) who knows who the character is, they suffer a –10 modifier per level.

Combat Paralysis

Bonus: 20 CP

The character has an unfortunate habit of freezing in combat or stressful situations, like a deer caught in headlights. Anytime violence breaks out around the character, or they are surprised, the character must make a Willpower Test in order to act or respond in any way. If they fail the test, they lose their action and simply stand there, remaining incapable of reacting to the situation.

Edited Memories

Bonus: 10 CP

At some point in the character's past, the character had certain memories strategically removed or otherwise lost to them. This may have been done to intentionally forget an unpleasant or shameful experience or to make a break with the past. The memory may also have been lost by an unexpected death (with no recent backup), or it may have been erased against the character's will. Whatever the case, the memory should bear some importance, and there should exist either evidence of what happened or NPCs who know the full story. This is a tool the gamemaster can use to haunt the character at some future point with ghosts from their past.

Enemy

Bonus: 10 CP

At some point in their past, the character made an enemy for life who continues to haunt them. The gamemaster and player should work out the details on this enmity, and the gamemaster should use the enemy as an occasional threat, surprise, and hindrance.

Feeble

Bonus: 20 CP

The character is particularly weak with one aptitude. That aptitude must be purchased at a rating lower than 5, and may never be upgraded during character advancement. The aptitude maximum is 10, no matter what morph the character is wearing.

Frail (Morph Trait)

Bonus: 10 (Level 1) or 20 (Level 2) CP

This morph is not as resilient as others of its type. Its Durability is reduced by 5 per level. This also reduces Wound Threshold by 1 or 2, respectively.

Genetic Defect (Morph Trait)

Bonus: 10 CP or 20 CP

The morph is not genefixed, and in fact suffers from a genetic disorder or other impairing mutation. The player and gamemaster should agree on a defect appropriate to their game. Some possibilities include: heart disease, diabetes, cystic fibrosis, sickle-cell disease, hypertension, hemophilia, or color blindness. A genetic disorder that creates minor complications and/or occasional health problems would be worth 10 CP, a defect that significantly impairs the character's regular functioning or that inflicts chronic health problems is worth 20 CP. The gamemaster must determine the exact effects of the disorder on gameplay, as appropriate.

This trait is only available for flats.

Identity Crisis

Bonus: 10 CP

The character's ego has trouble adapting itself to the changed look of a new morph—they are stuck with the mental image of their original body, and simply do not grow accustomed to their new face(s). As a result, the character has difficulty identifying themselves in the mirror, photos, surveillance feeds, etc. They frequently forget the look and shape of their current morph, acting inappropriately, describing themselves by their original body, forgetting to duck when walking through doorways, etc. This is primarily a roleplaying trait, but the gamemaster may apply appropriate modifiers (usually –10) to tests affected by this inability to adapt.

Illiterate

Bonus: 10 CP

The character knows how to speak, but has difficulty reading or writing. Due to the entoptic-saturated and icon-driven nature of transhuman society, they are able to get by quite comfortably with this handicap. Reduce the character's Language skills by half (round down) whenever reading or writing.

Immortality Blues

Bonus: 10 CP

The character has lived so long—over 100 years—they're bored with life and now have difficulty

motivating themselves. They were old when longevity treatments first became available, survived the Fall, and continue to soldier onward—though they find it increasingly harder to care, take interest in things around them, or fear final death. The character only receives half the Moxie and Rez Points award for completing motivational goals.

This trait may not be purchased by characters with the infolife or uplift backgrounds.

Implant Rejection (Morph Trait)

Bonus: 5 (Level 1) or 15 (Level 2) CP

This morph does not accept implants well. At Level 1, any implants acquired are more expensive as they required specialized anti-rejection treatments. Increase the Cost category of the implant by one. At Level 2, the morph cannot accept implants of any kind.

Incompetent

Bonus: 10 CP

The character is completely incapable of performing a particular chosen active skill, no matter any training they may receive. They may not buy this skill during character creation or later advancement, and the modifier for defaulting to the linked aptitude of this particular skill is –10. This may not be used for exotic weapon skills, and should be used for a skill that could be of use to the character.

Lemon (Morph Trait)

Bonus: 10 CP

This trait is only available for synthetic morphs. This particular morph has some unfixable flaws. Once per game session (preferably at a time that will maximize drama or hilarity), the gamemaster can call for the character to make a MOX x 10 Test (using their current Moxie score). If the character fails, the morph immediately suffers 1 wound resulting from some mechanical failure, electrical glitch, or other breakdown. This wound may be repaired as normal.

Low Pain Tolerance (Ego or Morph Trait)

Bonus: 20 CP

Pain is the character's enemy. The character has a very low threshold for pain tolerance and is more severely impaired when suffering. Increase the modifier for each wound take by an additional –10 (so the character suffers –20 with one wound, –40 with another, and –60 with a third). Additionally, the character suffers a –30 modifier on any test involving pain resistance. This morph version of this trait is only available for biomorphs.

Mental Disorder

Bonus: 10 CP

You have a psychological disorder from a previous traumatic experience in your life. Choose one of the disorders listed on p. 211.

Mild Allergy (Morph Trait)

Bonus: 5 CP

The morph is allergic to a specific chosen allergen (dust, dander, plant pollen, certain chemicals) and suffers mild discomfort when exposed to it (eye irritation, sneezing, difficult breathing). Apply a –10 modifier to all tests while the character remains exposed. This trait is only available for biomorphs.

Modified Behavior

Bonus: 5 (Level 1), 10 (Level 2), or 20 (Level 3) CP

The character has been conditioned via time-accelerated behavioral control psychosurgery. This is common among ex-felons, who have been conditioned to respond to a specific idea or activity with vehement horror and disgust, but may have occurred for some other reason or even been self-inflicted. At Level 1, the chosen behavior is either *limited* or *boosted,* at Level 2 it is either *blocked* or *encouraged*, and at Level 3 it is *expunged* or *enforced* (see p. 231 for details). This trait should only be allowed for behaviors that are either limited or, if encouraged, impact the character in a negative way.

Morphing Disorder

Cost: 10 (Level 1), 20 (Level 2), or 30 (Level 3) CP

Adapting to new morphs is particularly challenging for this character. The character suffers a –10 modifier per level on Integration Tests and Alienation Tests (p. 272).

Neural Damage

Bonus: 10 CP

The character has suffered some type of neurological damage that simply cannot be cured. The affliction is now part of the character's ego and remains with them even when remorphing. This damage may have been inherited, it may have resulted from a poorly designed morph or implant, or it may have been inflicted by one of the TITAN nanovirii that targeted neural systems during the Fall (p. 384). The gamemaster and player should agree on a specific disorder appropriate to their game. Some possibilities are:

- Partial aphasia (difficulty communicating or using words)
- Color blindness
- Amusica (inability to make or understand music)
- Synaesthesia
- Logorrhoea (excessive use of words)
- Loss of face recognition
- Loss of depth perception (double range modifiers)
- Repetitive behavior
- Mood swings
- The inability to shift attention quickly

The gamemaster may decide to inflict modifiers resulting from this affliction as appropriate.

No Cortical Stack (Morph Trait)

Bonus: 10 CP

The morph lacks the cortical stack that is common to morphs of its type. This means the character cannot be resleeved from the cortical stack if the character dies, they can only be resleeved from a standard backup. This trait is not available for flats.

Oblivious

Bonus: 10 CP

The character is particularly oblivious to events around them or anything other than what their attention is focused on. They suffer a –10 modifier to Surprise Tests and their modifier for being Distracted is –30 rather than the usual –20 (see *Basic Perception,* p. 190).

On the Run

Bonus: 10 CP

The character is wanted by the authorities of a particular habitat/station or faction, who continue to actively search for the character. They either committed a crime or somehow displeased someone in power. The character deals with that faction in question at their own risk, and may occasionally be forced to deal with bounty hunters.

Psi Vulnerability (Ego or Morph Trait)

Bonus: 10 CP

Something about the character's mind makes them particularly vulnerable to psi attack. They suffer a –10 modifier when resisting such attacks. The morph version of this trait may only be taken by biomorphs.

Real World Naiveté

Bonus: 10 CP

Due to their background, the character has very limited personal experience with the real (physical) world—or they have spent so much time in simulspace that their functioning in real life is impaired. They lack an understanding of many physical properties, social cues, and other factors that people with standard human upbringings take for granted. This lack of common sense may lead the character to misunderstand how a device works or to misinterpret someone's body language.

Once per game session, the gamemaster may intentionally mislead the character when giving them a description about some thing or some social interaction. This falsehood represents the character's misunderstanding of the situation, and should be roleplayed appropriately, even if the player realizes the character's mistake.

This trait should only be available to characters with the infolife or reinstantiated backgrounds, though the gamemaster may allow it for characters who have extensive virtual reality/XP use in their personal histories.

Severe Allergy (Morph Trait)

Bonus: 10 (uncommon) or 20 (common) CP

The morph's biochemistry suffers a severe allergic reaction (anaphylaxis) when it comes into contact (touched, inhaled, or ingested) with a specific allergen. The allergen may be common (dust, dander, plant pollen, certain foods, latex) or uncommon (certain drugs, insect stings). The player and gamemaster should agree on an allergen that fits the game. If exposed to the allergen, the character breaks into hives, has difficulty to breathing (–30 modifier to all actions), and must make a DUR Test or go into anaphylactic shock (dying of respiratory failure in 2d10 minutes unless medical care is applied). This trait is only available to biomorphs.

Slow Learner

Bonus: 10 CP

New skills are not easy for this character to pick up. The character takes twice as long as normal to improve skills or learn new ones (p. 152).

Social Stigma (Ego or Morph Trait)

Bonus: 10 CP

An unfortunate aspect of the character's background means that they suffer from a stigma in certain social situations. They may be sleeved in a morph viewed with repugnance, be a survivor of the infamous Lost generation, or may be an AGI in a post-Fall society plagued by fear of artificial intelligence. In social situations where the character's nature is known to someone who view that nature with distaste, fear, or repugnance, they suffer a –10 to –30 modifier (gamemaster's discretion) to social skill tests.

Timid

Bonus: 10 CP

This character frightens easily. They suffer a –10 modifier when resisting fear or intimidation.

Unattractive (Morph Trait)

Bonus: 10 CP (Level 1), 20 CP (Level 2), 30 CP (Level 3)

In a time when good looks are easily purchased, this morph is conspicuously ugly. As unattractiveness is increasingly associated with being poor, backward, or genetically defective, responses to a lack of good looks range from distaste to horror. The character suffers a –10 modifier on social tests for Level 1, –20 for Level 2, and –30 for Level 3.

Only biomorphs may take this trait. This modifier does not apply to interactions with xenomorphs or those with the infolife or uplift backgrounds. This modifier may be purchased for uplift morphs, but at half the bonus, and it is only effective against characters with that specific uplift background (i.e., neo-avians, neo-hominids, etc.).

Uncanny Valley (Morph Trait)

Bonus: 10 CP

There is a point where synthetic human looks become uncannily realistic and human-seeming, but

they remain just different enough that their looks seem creepy or even repulsive—a phenomenon called the "uncanny valley." Morphs whose looks fall into this range suffer a –10 modifier on social skill tests when dealing with humans. This modifier does not apply to interactions with xenomorphs or those with the infolife or uplift backgrounds.

UNFIT (MORPH TRAIT)

Bonus: 10 CP (Level 1), 20 CP (Level 2)

The morph is either not optimized for health and/or just in bad shape. Reduce the aptitude maximums for Coordination, Reflexes, and Somatics by 5 (Level 1) or 10 (Level 2).

VR VERTIGO

Bonus: 10 CP

The character experiences intense vertigo and nausea when interfacing with any type of virtual reality, XP, or simulspace. Augmented reality has no effect, but VR inflicts a –30 modifier to all of the character's actions. Prolonged use of VR (gamemaster's discretion) may actually incapacitate the character should they fail a WIL x 2 Test.

WEAK IMMUNE SYSTEM (MORPH TRAIT)

Bonus: 10 (Level 1) or 20 (Level 2) CP

The morph's immune system is susceptible to diseases, drugs, and toxins. At Level 1, apply a –10 modifier whenever making a test to resist infection or the effects of a toxin or drug. At Level 2, increase this modifier to –20. This trait is only available to biomorphs.

ZERO-G NAUSEA (MORPH TRAIT)

Bonus: 10 CP

This morph suffers from space sickness and does not fair well in zero-gravity. The character suffers a –10 modifier in any microgravity climate. Additionally, whenever the character is first getting acclimated or anytime they must endure excessive movement in microgravity, they must make a WIL Test or spend 1 hour incapacitated by nausea per 10 points of MoF.

CHARACTER ADVANCEMENT

As characters accomplish goals and gather experience during gameplay, they accumulate Rez Points (see *Awarding Rez Points,* p. 384). Rez Points may be used to improve the character's skills, aptitudes, and other characteristics per the following rules. The costs for spending Rez Points for advancement are the same as the costs for spending Customization Points.

CHANGING MOTIVATION

It is only natural that over time a character's driving goals and interests will change. The character may reach a turning point where they feel certain personal agendas have been fulfilled and it is time to move on, or they have failed and need to be discarded. New urgencies or philosophies may have entered the character's life, or the character may have become disenchanted with particular memes and ideas they previously took to heart.

Changing a character's motivation does not cost Rez Points, but it is something that should only happen in accordance with roleplaying and with life-altering events. Players should not be allowed to simply switch their motivations at whim, there should be a driving reason or explanation for doing so. For this reason, changing a motivation should only happen when the player and gamemaster discuss the matter and both agree that the swap is appropriate to the character's development and circumstances.

If these conditions are met, the character simply drops a previously held motivation and takes on a new one. Only one motivation should be switched out at a time.

SWITCHING MORPHS

Resleeving—switching from one morph to another—is handled as an in-character interaction, not with Rez Points. See *Resleeving,* p. 271.

IMPROVING APTITUDES

Aptitudes may be raised with Rez Points at the cost of 10 RP per aptitude point. This represents the character's improvement in their core characteristics, gained from exercise, learning, and experience. Aptitudes may not be raised above 30 (bonuses from morphs, implants, traits, or other sources do not count towards this total).

Raising the value of an aptitude also raises the value of all linked skills by an equivalent amount. If this raises any linked skills over 60, an additional 1 RP must be spent per linked skill over 60.

IMPROVING SKILLS

Characters may also spend Rez Points to increase existing skills or learn new ones. To improve an existing skill, the character must have successfully used that skill in the recent past or must actively practice it in order to get better, perhaps with the aid of an instructor. In the case of Knowledge skills, this means actively studying. As a rough timeframe, this should require around 1 week of learning per skill point. A number of educational resources are freely available

SPENDING REZ POINTS
15 RP = 1 Moxie point
10 RP = 1 aptitude point
5 RP = 1 psi sleight
5 RP = 1 specialization
2 RP = 1 skill point (61-99)
1 RP = 1 skill point (up to 60)
1 RP = 10 Rep
1 RP = 1,000 Credits

via the mesh, though some areas of interest may be restricted or hard to find. This can be handled via roleplaying or designated as something the character is doing during downtime between sessions. If the gamemaster decides that a character has not put enough effort into improving a skill, they may call for more practice/study.

The cost to increase a skill is 1 RP per skill point, and no skill may be increased over 99. No skill may be raised by more than 5 points per month. When a character's skill reaches the level of expertise (skill of 60+), however, they tend to reach a plateau where improvement progresses more slowly and even consistent practice and study have diminished returns. In this case, the Rez Point cost per skill point doubles (i.e., 2 RP = +1 skill point). When a skill reaches 80, improvement slows down even further—a skill of 80+ may not be increased by more than 1 point per month.

Learning New Skills

Similarly, to learn a new skill, the character must actively study/practice and/or seek instruction. No test to learn is required, unless the period of study was hampered or in some way deficient, in which case the gamemaster may call for a COG x 3 Test to pick up the new skill. Otherwise, once a character has spent approximately a week learning a new skill, they may purchase their first skill point at the usual cost (1 RP). The skill is bought up from the aptitude rating, per normal. Once a new skill is acquired, it is raised according to the standard rules above.

Specializations

Specializations may be purchased for existing skills, as long as that skill is at least rating 20. Specializations require a total of 1 month of training. The cost to learn a specialization is 5 RP. Only 1 specialization may be purchased per skill.

Improving Moxie

Moxie may be raised at the cost of 15 RP per Moxie point. The maximum to which Moxie may be raised is 10.

Gaining/Losing Traits

At the gamemaster's discretion, both positive and negative traits may be acquired or lost during gameplay, though such changes should be rare and only made in accordance with the storyline and unfolding events in the game.

Both positive and negative traits may be picked up by a character during gameplay as a consequence of something that did or something that happened to them. In the case of a positive trait, the character must immediately spend Rez Points equal to the trait's CP cost for the privilege (whether they wanted the new trait or not). If the character has no unspent RP available, they must pay out immediately from any future RP they earn until the debt is paid off. In the case of a negative trait, however, the character is simply saddled with the new flaw—they do not acquire any extra RP for gaining the negative trait.

Getting rid of traits is somewhat more difficult. Positive traits may be lost due to unfortunate effects on the character, as the gamemaster sees fit. Such lost positive traits are simply gone—the character does not receive any Rez Point reimbursement. Negative traits are occasionally eliminated in the same way, but more typically they can only be worked off through the hard work and diligence of a character that seeks to overcome their handicap. Such endeavors should require weeks if not months of effort on the character's part, with appropriate roleplaying and possibly some difficult tests. In fact, overcoming such traits could be the source of an adventure. Once a gamemaster feels that the character has made a strong-enough effort, the character may pay a number of Rez Points equal to the trait's original CP bonus to negate it. Note, however, that some negative traits may simply not be discarded, no matter what the character does.

Improving Rep

Reputation is something that can be increased with appropriate roleplaying and actions during gameplay (see *Reputation Gain and Loss,* p. 384). Characters that prefer to handle their Rep-boosting activities "off-screen," however, can simply spend Rez Points to boost their score(s). Each RP spent boosts the character's Rep by +10 in a single network. Only one such boost may be made to a single rep network per month.

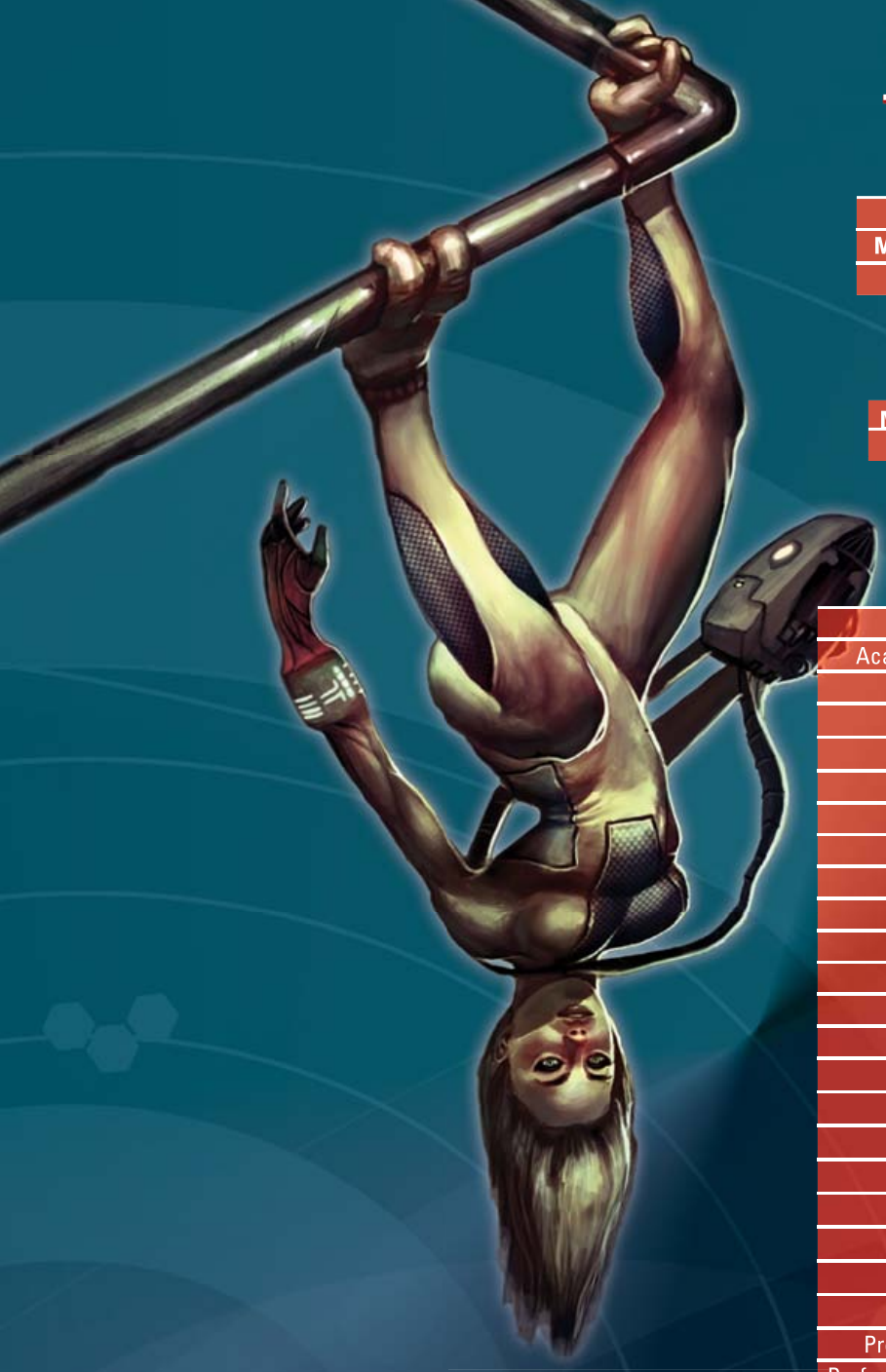
Making Credit

Rez Points may be spent on Credit at a ratio of 1 RP for 1,000 Credits. This represents income the character has earned "off-screen" or during downtime, such as from odd jobs, selling off possessions, and so on.

Improving Psi

Characters who have the Psi trait (p. 147) may purchase new sleights (see *Sleights,* p. 223) at the cost of 5 RP per sleight. Sleights must be learned through study, training, and practice, requiring approximately 1 month per sleight. No more than one sleight may be learned per month.

ANARCHIST TECHIE



APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	20	15	10	15	15	15
Morph Bonus	5	5				5	
Total	20	25	15	10	15	20	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
4	6	30	60	7	35	53	50	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Engineering	COG	60	5	65
Academics: Nanotechnology	COG	70	5	75
Academics: Physics	COG	60	5	65
Art: Sculpture	INT	55		55
Free Fall	REF	60		60
Hardware: Aerospace	COG	45	5	50
Hardware: Armorer	COG	55	5	60
Hardware: Electronics	COG	60	5	65
Hardware: Robotics	COG	60	5	65
Infosec	COG	40	5	45
Interests: Martian Beers	COG	45	5	50
Interests: Robot Models	COG	45	5	50
Interests: VR Games	COG	55	5	60
Interfacing	COG	50	5	55
Language: Native English	INT	85		85
Language: Mandarin	INT	60		60
Networking: Autonomists	SAV	70		70
Networking: Firewall	SAV	35		35
Networking: Scientists	SAV	35		35
Perception	INT	55		55
Pilot: Aircraft	REF	45		45
Pilot: Spacecraft	REF	30		30
Profession: Habitat Systems	COG	60	5	65
Profession: Spacecraft Systems	COG	60	5	65
Programming (Nanofabrication)	COG	60 (70)	5	65 (75)
Scrounging	INT	45		45
Spray Weapons	COO	40	5	45

Background: **Original Space Colonist**
Faction: **Anarchist**
Morph: **Bouncer**
Motivations: **+Anarchism +Open Source +Tech-Hacking**

TRAITS
Ego: Oblivious ■
Morph: Limber (Level 1) ■

REP
@-rep: 60
i-rep: 40
r-rep: 50

EQUIPMENT
Armor: Crash Suit [4/6] ■
Primary Weapon: Freezer (100 shots) ■
Starting Credit: 200 ■

Implants: Access Jacks, Basic Biomods, Basic Mesh Inserts, Cortical Stack, Electrical Sense, Grip Pads, Oxygen Reserve, Prehensile Feet, Wrist-Mounted Tools ■
Gear: 2 Automechs, Backup Insurance (1 month), Engineer Nanoswarm, Fabber, Fixer Nanoswarm, Muse, Vacsuit (Light Smartfabric, 5/5) ■

You're an old school hacker—the kind that likes to take technological toys, dismantle them, modify them, rebuild them, and then use them in ways the designers never imagined. When you're not too busy building crazy robotic sculptures for art performance purposes, your skills are in demand because you can fix almost anything, improve it, or even build it from scratch. You advocate for open source technology that anyone can use or modify as they see fit and you support decentralized models of peer collaboration—nothing pisses you off more than restrictive proprietary tech with which you or others can't meddle. You take a hands-on approach to most problems, but you become so engrossed in your projects that you tend to be oblivious to the world around you. ■

"Don't worry, it works; these things run themselves anyway. I voided the warranty, but anything loaded with DRM like that is broken to start with."

ARGONAUT XENOARCHEOLOGIST

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	20	15	20	15	10	15	15
Morph Bonus	5		5		5	5	
Total	25	15	25	15	15	20	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
3	6	30	60	7	35	53	70 (80)	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Astrobiology	COG	60	5	65
Academics: Chemistry	COG	40	5	45
Academics: Engineering	COG	50	5	55
Academics: Geology	COG	55	5	60
Academics: Physics	COG	50	5	55
Academics: Xenoarcheology	COG	70	5	75
Art: Architecture	INT	45	5	50
Beam Weapons	COO	35		35
Climbing	SOM	35	5	40
Demolitions	COG	45	5	50
Fray	REF	45		45
Free Fall	REF	25		25
Interests: Alien Relics	COG	45	5	50
Interests: Pandora Gates	COG	55	5	60
Interfacing	COG	20	5	25
Investigation	INT	65	5	70 (80)
Kinesics	SAV	30	5	35
Language: Native French	INT	90	5	95
Language: English	INT	40	5	45
Networking: Autonomists	SAV	30	5	35
Networking: Firewall	SAV	30	5	35
Networking: Hypercorps	SAV	30	5	35
Networking: Scientists	SAV	50	5	55
Perception	INT	40	5	45 (55)
Pilot: Aircraft	REF	35		35
Pilot: Groundcraft	REF	50		50
Profession: Excavation	COG	50	5	55
Profession: Forensics	COG	55	5	60
Profession: Surveying	COG	40	5	45
Protocol	SAV	40	5	45
Research	COG	55	5	60
Sense	INT	60	5	65

Background: **Original Space Colonist**
Faction: **Argonaut**
Morph: **Exalt**
Motivations: **+Exploration +Research (Alien Civilizations) +Techno-Progressivism**

TRAITS

Ego: Enemy (Rival Xenoarcheologist), Mental Disorder (Impulse Control), Mental Disorder (Insomnia), Morphing Disorder, Psi (Level 2) ■

SLEIGHTS

Psi-Chi: Ambience Sense, Grok, Pattern Recognition ■
Psi-Gamma: Omni Awareness, Static, Thought Browse ■

REP

@-rep: 40
c-rep: 40
e-rep: 20
i-rep: 40
r-rep: 60

EQUIPMENT

Armor: Vacsuit (Standard Smartfabric) [7/7] ■
Primary Weapon: Stunner ■
Starting Credit: 4,250 ■
Implants: Basic Biomods, Basic Mesh Inserts, Cortical Stack, Echo Location, Medichines, Mnemonic Augmentation ■
Gear: Backup Insurance (1 month), Cleaner Nanoswarm, Disassembler Nanoswarm, Electronic Rope, Forensics Kit, Klar (1 dose), Mobile Lab, Muse, Servitor Bot, Shelter Dome, Smart Dust, Specimen Container, Specs, Utilitool ■

You are convinced that something strange is going on in the galaxy. Despite the Factors and signs of dead alien civilizations like the Iktomi, the sheer mathematical odds insist that there should be more life in the galaxy. So where is it? Your goal is to find out, and in pursuit of this you study the relics left behind on various exoplanets. Equal parts conspiracy theorist, treasure hunter, and scientist, you have the skills and training to decode the evidence and artifacts left behind by unknown entities and life forms. You are a valued expert for gatecrashing expeditions, but you avoid working for hypercorps because you believe, like other argonauts, that any discoveries made should be available to all. ■

"I've got a bad feeling about this. These tools are very similar to the ones we recovered from the ruins on that binary system exoplanet last year."

BARSOOMIAN FREELANCE JOURNALIST

Background: **Martian**
Faction: **Barsoomian**
Morph: **Synth**
Motivations: **-Censorship +Martian Liberation +Sousveillance**

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	10	20	10	20	15	15
Morph Bonus				5		5	
Total	15	10	20	15	20	20	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
5	6	30	60	8	40	80	60 (70)	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Memetics	COG	55		55
Academics: Political Science	COG	35		35
Academics: Psychology	COG	45		45
Art: Performance	INT	60		60
Art: Writing	INT	50		50
Deception	SAV	50		50
Fray	REF	40	5	45
Freerunning	SOM	45	5	50
Gunnery	INT	45		45
Hardware: Robotics	COG	55		55
Infiltration	COO	35		35
Infosec	COG	40		40
Interests: Inner System Rumors	COG	55		55
Interests: Martian Politics	COG	55		55
Interests: Post-Fall History	COG	45		45
Interfacing	COG	40		40
Intimidation	SAV	20		20
Investigation	INT	60		60
Kinesics	SAV	60		60
Language: Native Mandarin	INT	90		90
Language: English	INT	40		40
Language: Hindi	INT	40		40
Networking: Autonomists	SAV	50		50
Networking: Criminal	SAV	40		40
Networking: Hypercorps	SAV	50		50
Networking: Media	SAV	60		60
Perception	INT	50		50
Persuasion	SAV	50		50
Pilot: Aircraft	REF	50	5	55
Pilot: Groundcraft	REF	20	5	25
Profession: Social Engineering	COG	50		50
Protocol	SAV	40		40
Research	COG	55		55
Spray Weapons	COO	30		30
Unarmed Combat	SOM	45	5	50

TRAITS

Ego: Minor Addiction (Narcoalgorithms), Modified Behavior (Boosted Stalking Tendencies) ■
Morph: Social Stigma (Clanking Masses), Uncanny Valley ■

REP

@-rep: 40
c-rep: 40
e-rep: 20
i-rep: 40
r-rep: 60

EQUIPMENT

Armor: Synth Shell [2/2] ■
Primary Weapon: Shredder (100 shots) ■
Starting Credit: 1,450 ■
Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Enhanced Hearing, Enhanced Smell, Enhanced Vision, Lidar, Mnemonic Augmentation, Radar, T-Ray Emitter ■
Gear: Backup Insurance (1 month), Covert Ops Tool, Facial/Image Recognition Software, Gnat Bots (3), Linkstate Narcoalgorithm, Microbugs (5), Muse, Radio Booster, Repair Spray, Saucer Bot, Speck Bots (2), Smart Dust, Tracking Software, Trike Exoskeleton ■

Thanks to the mesh, lifelogging, XP, and ubiquitous surveillance, journalism is a crowdsourced industry—everyone is a reporter. Hard work, skill, and attitude can still earn you a name and recognition, however. Your committment to old school investigative journalism and raking the muck that the power brokers and influence peddlers wallow in has helped expose the puppet strings behind the cyberdemocratic facade. You make a sport out of bypassing the hypercorp content filters and initiating subversive memes. Equal parts investigator, paparazzi, adventurer, and activist, you embrace a gonzo journalist style that borders on entertainment. You prefer synths because they are innocuous and employ numerous drones and electronic spies to obtain the real story. ■

"What? No, I'm not recording.
Anything you have to say about the Hellas massacre is strictly between you and me."

BRINKER GENEHACKER

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	20	15	15	15	15	10	20
Morph Bonus	10	5	5				5
Total	30	20	20	15	15	10	25

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
3	8 (10)	40 (50)	80 (100)	7	35	53	60 (70)	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Biology	COG	70	10	80
Academics: Genetics	COG	70	10	80
Academics: Nanotechnology	COG	60	10	70
Art: Bodysculpting	INT	45	5	50
Beam Weapons	COO	45	5	50
Deception	SAV	30		30
Fray	REF	40		40
Free Fall	REF	55		55
Hardware: Aerospace	COG	40	10	50
Interests: Black Market Drugs	COG	40	10	50
Interests: Genetics Research	COG	60	10	70
Interests: Morph Designs	COG	55	10	65
Interfacing	COG	20	10	30
Kinesics	SAV	40	10	40
Language: Native Arabic	INT	85	5	90
Language: English	INT	40	5	45
Medicine: General Practice	COG	55	10	65
Medicine: Gene Therapy	COG	65	10	75
Medicine: Nanomedicine	COG	60	10	70
Medicine: Trauma Surgery	COG	50	10	60
Networking: Autonomists	SAV	35		35
Networking: Criminal	SAV	45		45
Networking: Scientists	SAV	55		55
Perception	INT	45	5	50
Pilot: Spacecraft	REF	25		25
Profession: Lab Technician	COG	50	10	60
Profession: Medical Care	COG	55	10	65
Programming	COG	60	10	70
Psychosurgery	INT	55	5	60
Research	COG	45	10	55
Scrounging	INT	50	5	55

Some might consider you a mad scientist, but they simply lack the vision and moral flexibility to understand the meaning of your work. You are not just a scientist—you are an artist, dedicated to defining the shapes and abilities of transhumans as they transition to the posthuman. Because your work is sometimes controversial, you prefer the brinker lifestyle, working in isolation where you are not restricted by laws or customs.

There are some who find your work intriguing or valuable, of course, and so you have acquired influential backers. In truth, you are an expert when it comes to designing and manipulating biomorphs, and so your services are sometimes in demand when it comes to explaining unusual and exotic transformations. Your patrons, of course, sometimes call on your expertise from time to time in exchange for bankrolling your work. ■

Background: **Isolate**
Faction: **Brinker**
Morph: **Menton**
Motivations: **+Artistic Expression (Morph Design) +Morphological Freedom +Research (Neogenetics)**

TRAITS
Ego: Black Mark (Lunars, Level 1), Patron (Gerontocrat), Psi Defense ■

REP
@-rep: 30
c-rep: 20
g-rep: 30
r-rep: 60

EQUIPMENT
Armor: Armor Clothing [3/4] ■
Primary Weapon: Stunner ■

Starting Credit: 1,900 ■
Implants: Access Jacks, Basic Biomods, Basic Mesh Inserts, Circadian Regulation, Cortical Stack, Eidetic Memory, Ghostrider Module, Hyperlinguist, Math Boost, Medichines, Multi-Tasking ■
Gear: Backup Insurance (1 month), Dr. Bot, Drive (5 doses), Ego Bridge, Fabber, Frequency (1 dose), Guardian Angel Bot, Healing Vat, Muse, Nanobandages ■

"It's alive! It's alive! Wait—no—well, it was alive. Let's try that again."

CRIMINAL HACKER

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	20	15	15	10	20	10	15
Morph Bonus							
Total	20	15	15	10	20	10	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
3	6	30	60	6	30	60	50	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Computer Science	COG	60		60
Academics: Cryptography	COG	60		60
Academics: Engineering	COG	50		50
Art: Electronic Music	INT	45		45
Beam Weapons	COO	40		40
Deception	SAV	55		55
Fray	REF	40		40
Free Fall	REF	30		30
Hardware: Electronics	COG	60		60
Hardware: Industrial	COG	45		45
Hardware: Robotics	COG	55		55
Impersonation	SAV	45		45
Infiltration	COO	60		60
Infosec	COG	70		70
Interests: Hacker Mesh Forums	COG	55		55
Interests: Online Banking	COG	50		50
Interests: Triad Economics	COG	45		45
Interfacing	COG	55		55
Intimidation	SAV	30		30
Kinesics	SAV	40		40
Language: Native Russian	INT	85		85
Networking: Autonomists	SAV	40		40
Networking: Criminals	SAV	60		60
Networking: Firewall	SAV	40		40
Networking: Hypercorps	SAV	40		40
Perception	INT	50		50
Pilot: Aircraft	REF	30		30
Pilot: Groundcraft	REF	20		20
Profession: Accounting	COG	50		50
Profession: Security Operations	COG	55		55
Profession: Social Engineering	COG	60		60
Programming	COG	60		60
Research	COG	60		60

Background: **Reinstantiated**
Faction: **Criminal**
Morph: **Swarmanoid**
Motivations: **+Fame +Subverting Technology +Thrill-Seeking**

TRAITS
Ego: Edited Memories, On the Run (Morningstar Constellation), Right at Home ■

REP
@-rep: 30
c-rep: 20
g-rep: 50
i-rep: 50

EQUIPMENT
Armor: None [0/0] ■
Primary Weapon: None ■
Starting Credit: 5,250 ■

Enhancements: Access Jacks, Basic Mesh Inserts, Cortical Stack, Cyberbrain, Electrical Sense, Enhanced Vision, Lidar, Magnetic System, Mental Speed, Mnemonic Augmentation, Nanoscopic Vision, Radar, Swarm Composition, T-Ray Emitter ■
Gear: Automech, Backup Insurance (1 month), EMP Grenade, Exploit Software, Fake Ego ID, Guardian Bot, Guardians Nanoswarm, Saboteur Nanoswarm, Servitor Bot, Sniffer Software, Spoof Software, Tactical Network Software, Tracking Software ■

There's never been a system you couldn't crack, given time. That's what got you put away the first time, but now that you have a second chance you'll never get caught again. You take pride at circumventing firewalls and mesh defenses—nothing surpasses the thrill of digital trespassing and accessing secrets. Such intrusions are illegal, of course, but you've never let morality get in your way. In fact, you make a good living selling your talents to criminal groups like the triads and ID Crew. You've never been a joiner, though—you remain strictly freelance. In fact, you'll sell your services to almost anyone—it's the thrill of the hack that really counts. ■

"You call this secure? Maybe it would keep me out if I was a particularly slow child."

EXTROPIAN SMUGGLER

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	15	15	20	15	15	15
Morph Bonus		5	5			5	
Total	15	20	20	20	15	20	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
5	6	30	60	8	40	80	70	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Accounting	COG	35		55
Academics: Astrophysics	COG	45		45
Academics: Psychology	COG	40		40
Blades	SOM	45	5	50
Deception	SAV	50		50
Fray	REF	50		50
Free Fall	REF	30		30
Gunnery	INT	40	5	45
Hardware: Aerospace	COG	50		50
Infiltration	COO	40	5	45
Infosec	COG	35		35
Interests: Black Markets	COG	55		55
Interests: Criminal Groups	COG	35		35
Interests: Inner System Law	COG	55		55
Kinesics	SAV	40		40
Kinetic Weapons	COO	50	5	55
Language: Native Korean	INT	85	5	90
Language: English	INT	45	5	50
Language: Cantonese	INT	40	5	45
Navigation	INT	30	5	35
Networking: Autonomists	SAV	55		55
Networking: Criminal	SAV	55		55
Networking: Hypercorps	SAV	35		35
Palming	COO	35	5	40
Perception	INT	45	5	50
Persuasion	SAV	60		60
Pilot: Aircraft	REF	45		45
Pilot: Groundcraft	REF	50		50
Pilot: Spacecraft	REF	60		60
Profession: Appraisal	COG	45		45
Profession: Customs Procedures	COG	50		50
Profession: Smuggling Tricks	COG	60		60

Despite the failures of statist capitalism, you're a die-hard believer in free markets—and when markets aren't free, you have no qualms about undermining them.

You make a living supplying the inner system and Jovian black markets, whether that means running blockades, smuggling contraband, or pirating nanofab blueprints. In an age of automated machines, you're a damn good pilot, and you can talk or shoot your way out of messy situations. Whereas many people look down on synthmorphs, you embrace the post-biological life and its freedom from chemical and biological dependencies.■

Background: **Reinstantiated**
Faction: **Extropian**
Morph: **Slitheroid**
Motivations: **+Libertarianism +Subverting Authority +Wealth**

TRAITS

Ego: Danger Sense, Edited Memories, Neural Damage (Repetitive Behavior), On the Run (Jovians) ■

REP

@-rep: 50
c-rep: 30
g-rep: 70
i-rep: 50

EQUIPMENT

Armor: Light Combat Armor [14/12] ■
Primary Weapon: SMG Firearm (100 rounds regular ammo) ■
Starting Credit: 1,400 ■

Enhancements: 360-degree Vision, Access Jacks, Anti-Glare, Basic Mesh Inserts, Chameleon Skin, Cortical Stack, Cyberbrain, Enhanced Vision, Grip Pads, Hidden Compartment, Lidar, Light Combat Armor, Mnemonic Augmentation, Mobility System: Snake (4/16; 8/32 rolling), Radar, T-Ray Emitter ■
Gear: Backup Insurance (1 month), Dazzler, Fake Ego ID, Guardian Bot, Miniature Radio Farcaster, Phlo (1 dose), Portable Plane, Radio Booster, Repair Spray, Slip (1 application), Smart Clothing, Utilitool, Vibroblade, White Noise Machine ■

"Sorry about that, but I gotta look out for numero uno. You understand."

HYPERCORP BLACK MARKETEER

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	15	20	15	15	15	10
Morph Bonus					5		
Total	15	15	20	15	20	15	10

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
4	4	20	40	6	30	45	70	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Economics	COG	60		60
Academics: Sociology	COG	55		55
Beam Weapons	COO	40		40
Climbing	SOM	35	5	40
Deception	SAV	60	5	65
Fray	REF	45		45
Freerunning	SOM	35		35
Infiltration	COO	40		40
Infosec	COG	40		40
Interests: Black Markets	COG	60		60
Interests: Inner System Law	COG	50		50
Interests: Smuggling	COG	55		55
Interfacing	COG	35		35
Kinesics	SAV	60	5	65
Language: Native Portugese	INT	85		85
Language: English	INT	45		45
Networking: Autonomists	SAV	45	5	50
Networking: Criminal	SAV	60	5	65
Networking: Hypercorps	SAV	60	5	65
Networking: Media	SAV	45	5	50
Perception	INT	50		50
Persuasion	SAV	60	5	65
Pilot: Groundcraft	REF	25		25
Profession: Appraisal	COG	60		60
Profession: Con Schemes	COG	55		55
Profession: Info Brokerage	COG	50		50
Protocol	SAV	55	5	60
Scrounging	INT	40		40
Spray Weapons	COO	35		35
Unarmed Combat	SOM	55		55

Background: **Fall Evacuee**
Faction: **Hypercorp**
Morph: **Splicer**
Motivations: **+Personal Career +Techno-Progressivism +Wealth**

TRAITS
Ego: Enemy (Rival Criminal) ■

REP
@-rep: 20
c-rep: 70
e-rep: 20
f-rep: 30
g-rep: 50
i-rep: 10

EQUIPMENT
Armor: Bioweave (Light) + Armor Vest [8/9] ■
Primary Weapon: Laser Pulser ■
Starting Credit: 2,650 ■
Implants: Basic Biomods, Basic Mesh Inserts, Bioweave (Light), Cortical Stack, Eelware, Endocrine Control, Enhanced Vision, Medichines, Nanophages ■
Gear: Backup Insurance (1 month), Cleaner Nanoswarm, Fake Ego ID, Guardian Bot, Muse, Nanobandage, Nanodetector, Overload Grenade, Servitor Bot, Shredder (100 shots), Vacsuit (Standard), Tactical Network Software ■

The inner system is a nice place to live, but it has its share of inequalities. Someone has to provide the goods and services that the poor and clanking masses need, and you're more than willing to meet their needs—and make some profit of your own while you're at it. You work as a middle man between the hackers, smugglers, and criminal cartels on one side and everyone who needs or craves the restricted and illegal on the other. You keep a step ahead of the law, providing what you see as an essential role in society despite the official rules and restrictions that enhance your profit margins. ■

"I may have that, but it's very hard to acquire. How much is it worth to you?"

JOVIAN SPY

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	15	15	15	15	15	15
Morph Bonus							
Total	15	15	15	15	15	15	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
3	6	30	60	6	30	45	60	1 (2)

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Cryptography	COG	60		60
Academics: Linguistics	COG	60		60
Blades	SOM	45		45
Climbing	SOM	55		55
Clubs	SOM	45		45
Deception	SAV	60		60
Demolitions	COG	45		45
Disguise	INT	45		45
Fray	REF	45		45
Free Fall	REF	45		45
Freerunning	SOM	45		45
Impersonation	SAV	45		45
Infiltration	COO	60		60
Infosec	COG	60		60
Interests: Autonomist Groups	COG	55		55
Interests: Criminal Groups	COG	55		55
Interests: Hypercorp Politics	COG	55		55
Kinesics	SAV	45		45
Language: Native Spanish	INT	85		85
Language: English	INT	50		50
Networking: Criminals	SAV	40		40
Networking: Ecologists	SAV	45		45
Networking: Hypercorps	SAV	45		45
Palming	COO	45		45
Perception	INT	55		55
Profession: Security Systems	COG	55		55
Profession: Smuggling Tricks	COG	45		45
Profession: Spycraft	COG	55		55
Spray Weapons	COO	25		25
Unarmed Combat	SOM	55		55

Background: **Original Space Colonist**
Faction: **Jovian**
Morph: **Flat**
Motivations: **-Anarchism +Bioconservativism -Techno-Progressivism**

TRAITS
Ego: Modified Behavior (Blood-thirsty, boosted), Morphing Disorder (Level 1) ■
Morph: Genetic Defect (Heart Disease), Unattractive (Level 1) ■

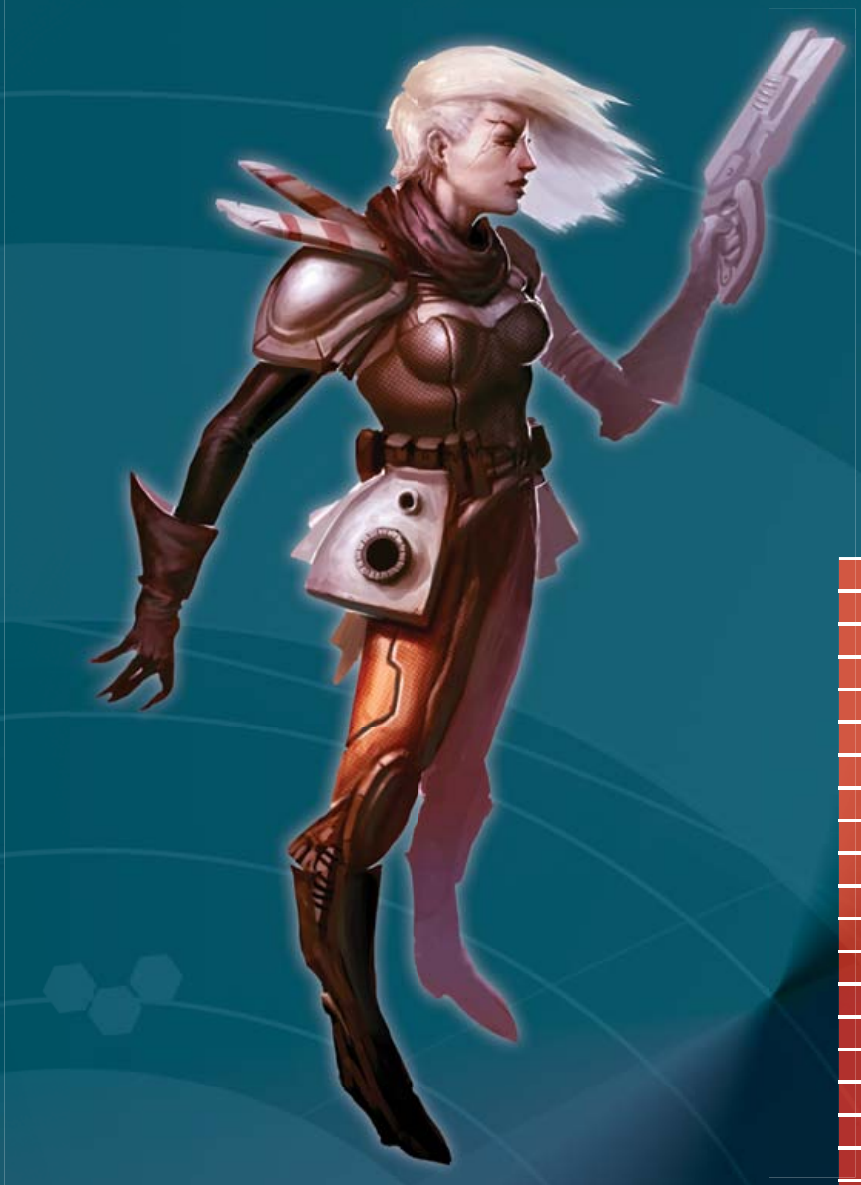
REP
c-rep: 50
e-rep: 30
g-rep: 20

EQUIPMENT
Armor: Body Armor (with Thermal Dampening) +Second Skin [14/16] ■
Primary Weapon: Heavy Pistol Railgun (100 AP rounds) ■
Starting Credit: 700 ■
Implants: Neurachem (Level 1), ■
Gear: Backup Insurance (1 month), 2 Fake Ego IDs, 10 Frag Grenades, Invisibility Cloak, Liquid Thermite, Miniature Radio Farcaster, MRDR (1 dose), Oxytocin-A (1 dose), Radio Booster, Portable QE Communicator with Low-Capacity Qubit Reservoir, 3 Speck Bots, Specs, Tactical Network Software, Wasp Knife, White Noise Machine ■

You're a dedicated soldier to the bioconservative cause, convinced that unrestricted technology is driving the human race to extinction. The Jovian Republic has trained you and modified you to serve their interests, whether that means infiltrating a hypercorp to steal its secrets or sabotaging an autonomist habitat. As a skilled professional in service to the republic, you have no qualms about using technologies that you otherwise want restricted or banned, and you appreciate the irony of using the tools of transhuman monsters against them. You prefer flats, and you consider it a point of pride that you sleeve into a non-genetically-modified body with no cortical stack and still kick transhuman ass. ■

"Not so immortal now, are we, frankenfreak scum!"

LUNAR EGO HUNTER



APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	20	15	10	10	15	20
Morph Bonus	5		5		5		10
Total	20	20	20	10	15	15	30

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
1	8 (12)	40 (60)	80 (120)	7	35	53	50 (70)	1 (2)

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Neurology	COG	55	5	60
Academics: Psychology	COG	60	5	65
Art: Dance	INT	45	5	50
Art: Painting	INT	45	5	50
Beam Weapons	COO	60		60
Clubs	SOM	45		45
Control	WIL	50	10	60
Fray	REF	50		50
Freerunning	SOM	55		55
Infiltration	COO	50		50
Infosec	COG	45	5	50
Interests: Conspiracies	COG	55	5	60
Interests: Hypercorp Projects	COG	55	5	60
Interests: TITANs	COG	60	5	65
Intimidation	SAV	20	5	25
Investigation	INT	50	5	55
Kinesics	SAV	40	5	45
Language: Native English	INT	85	5	90
Language: Japanese	INT	85	5	90
Language: Hindi	INT	25	5	30
Networking: Criminal	SAV	30	5	35
Networking: Ecologists	SAV	40	5	45
Networking: Hypercorps	SAV	50	5	55
Perception	INT	40	5	45
Profession: Ego Hunting	COG	55	5	60
Profession: Inner System Law	COG	45	5	50
Profession: Police Procedures	COG	55	5	60
Psi Assault	WIL	40	10	50
Research	COG	55	5	60
Sense	INT	55	5	60
Unarmed Combat	SOM	55		55

Background: **Lost**
Faction: **Lunar**
Morph: **Futura**
Motivations: **+Personal Development +Self-Protection +Vengeance**

TRAITS

Ego: Mental Disorder (Borderline Personality), Mental Disorder (Obsessive-Compulsive), Psi (Level 2), Social Stigma (Lost), VR Vertigo ■

SLEIGHTS

Psi-Chi: Emotional Control, High Pain Threshold, Instinct, Unconscious Lead ■

Psi-Gamma: Deep Scan, Ego Sense, Psychic Stab, Subliminal ■

REP

c-rep: 30
e-rep: 10
g-rep: 10

EQUIPMENT

Armor: Body Armor (Light) [10/10] ■
Primary Weapon: Agonizer ■
Starting Credit: 2,700 ■
Implants: Adrenal Boost, Basic Biomods, Basic Mesh Inserts, Cortical Stack, Eidetic Memory, Emotional Dampers, Enhanced Hearing, Enhanced Smell, Enhanced Vision, Medichines, Oracles ■
Gear: Backup Insurance (1 month), Disabler, Facial/Image Recognition Software, Fake Ego ID, Muse, Shock Baton, Sniffer Software, Tactical Network Software, Taggant Nanoswarm, Track Software, Tracker Dye (1 dose), Twitch (1 dose) ■

You survived your accelerated growth experience as a member of the Lost generation, the collapse of the project, and the scandal and witchhunts that followed. You've immersed yourself in a new life and identity. Now you put your particular skills and talents to use tracking people as a bounty hunter—a daunting task considering that your targets can change not only their faces but their bodies and sometimes even their memories and mannerisms. All the while you viciously hide your own history and out-maneuver those who want to track your kind down. You are not content to be a victim or a mercenary for others, however. Slowly but surely you are amassing information on those responsible for the Lost project—for what they did to you—and some day you will make them pay. ■

"Hello, doctor, you're a hard man to find.
I have some questions about some children that I'd like to ask you."

MERCURIAL INVESTIGATOR

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	20	10	15	15	20	5	20
Morph Bonus							
Total	20	10	15	15	20	5	20

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
4	8	40	80	—	—	—	60	1 (3)

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Anthropology	COG	60		60
Academics: Computer Science	COG	60		60
Academics: Physics	COG	50		50
Art: Digital Art	INT	50		50
Deception	SAV	40		40
Fray	REF	35		35
Free Fall	REF	30		30
Gunnery	INT	50		50
Impersonation	SAV	45		45
Infiltration	COO	50		50
Infosec	COG	60		60
Interests: Crime Groups	COG	60		60
Interests: Cultural Trends	COG	45		45
Interfacing	COG	50		50
Investigation	INT	60		60
Kinesics	SAV	50		50
Language: Native English	INT	90		90
Networking: Criminals	SAV	50		50
Networking: Firewall	SAV	40		40
Networking: Hypercorps	SAV	40		40
Perception	INT	45		45
Pilot: Aircraft	REF	55		55
Pilot: Anthroform	REF	55		55
Pilot: Groundcraft	REF	30		30
Profession: Forensics	COG	60		60
Profession: Police Procedures	COG	50		50
Profession: Security Systems	COG	45		45
Programming	COG	60		60
Research	COG	60		60

Background: **Infolife**
Faction: **Mercurial**
Morph: **Infomorph**
Motivations: **+AGI Rights +Personal Development +Sousveillance**

You are a digital life form, coded to be "friendly" and molded with transhuman mindsets and world views. You resent the backlash against AGIs and criticize resurgent human tendencies towards technophobia and xenophobia as harmful to the emerging transhuman society. You immerse yourself fully in transhuman culture and the data it produces, bathing in its richness. You excel at sifting, sorting, and correlating this data, in fact, selling your services as a mesh-based investigator. For most of your inquiries, a physical form isn't necessary, as you acquire data on the physical world through sensors. When physical interaction is called for, however, you can operate or jam a bot or catch a ride in a ghostrider module or, as a last resort, in a meat puppet. ■

TRAITS
Ego: Real World Naiveté, Social Stigma (AGI) ■

REP
c-rep: 20
g-rep: 10
i-rep: 20

EQUIPMENT
Armor: None [0/0] ■
Primary Weapon: None ■
Starting Credit: 250 ■

Gear: AR Illusions Software, Backup Insurance (1 month), Covert Ops Tool, Creepy, Exploit Software, Facial/Image Recognition Software, 2 Gnat Bots, Guardian Bot, Holographic Projector, Juice Narcoalgorithm, Saucer Bot, Scout Nanoswarm, Servitor Bot, Smart Dust, Sniffer Software, 3 Speck Bots, Spoof Software, Tactical Network Software, Tracking Software, 5 XP Clips ■

"Oh this is great, I think I found it! What is a 'red light district?' Oh, I see."

MERCURIAL SCAVENGER

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	10	20	15	15	10	20	15
Morph Bonus	5	5	5				
Total	15	25	20	15	10	20	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
5	6	30	60	6	30	45	60 (70)	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Engineering	COG	50	5	55
Academics: Materials Science	COG	50	5	55
Academics: Physics	COG	50	5	55
Art: Ink Painting	INT	45	5	50
Climbing	SOM	30		30
Demolitions	COG	40	5	45
Exotic Ranged: Ink Attack	COO	35	5	40
Free Fall	REF	45		45
Hardware: Electronics	COG	40	5	45
Hardware: Industrial	COG	40	5	45
Infiltration	COO	50	5	55
Interests: Post-Fall Earth	COG	40	5	45
Interests: Ruined Habitats	COG	55	5	60
Interests: Spaceship Models	COG	40	5	45
Interfacing	COG	30	5	35
Investigation	INT	35	5	40
Kinetic Weapons	COO	50	5	55
Language: Native Japanese	INT	80	5	85
Networking: Autonomists	SAV	30		30
Networking: Criminal	SAV	40		40
Networking: Ecologists	SAV	40		40
Networking: Firewall	SAV	30		30
Networking: Hypercorps	SAV	30		30
Palming	COO	40	5	45
Perception	INT	45	5	50
Pilot: Aircraft	REF	35		35
Pilot: Spacecraft	REF	45		45
Profession: Appraisal	COG	40	5	45
Profession: Salvage Ops	COG	60	5	65
Scrounging	INT	60	5	65
Swimming	SOM	50		50
Unarmed Combat	SOM	50		50

Background: **Uplift (Octopus)**
Faction: **Mercurial**
Morph: **Octomorph**
Motivations: **+Exploration +Reclaiming Earth +Uplift Rights**

TRAITS
Ego: Ambidextrous (x 2) ■
Morph: Limber (Level 2) ■

REP
@-rep: 30
c-rep: 20
e-rep: 40
g-rep: 40
i-rep: 20

EQUIPMENT
Armor: Crash Suit [3/4 or 4/6] with Chameleon Coating ■
Primary Weapon: Kinetic Pistol with 100 rounds standard ammo ■
Starting Credit: 400 ■

Implants: Basic Biomods, Basic Mesh Inserts, Chameleon Skin, Cortical Stack, Direction Sense, Echolocation, Electrical Sense, Enhanced Vision, Grip Pads, Medichines, Oracles, Radiation Sense ■
Gear: Backup Insurance (1 month), Breadcrumb Positioning System, Disassembly Tools, Mobile Lab, Muse, Nanodetector, Radio Booster, Shelter dome, Specimen Container, Superthermite Charge, Tactical Network Software, Vacsuit (Standard), X-Ray Emitter ■
Advantages: 8 Arms, Beak Attack (1d10 DV, use Unarmed Combat skill), Ink Attack (blinding), 360-degree Vision ■

You may be an "uplift," but you find it hard not to feel sorry for these modified monkeys around you who have to get by with half as many limbs, gaping sensory blind spots, and brittle bones that are constantly breaking. Any favors they did by uplifting octopus-kind were rendered moot when they succeeded in despoiling and abandoning the home planet you all shared. Nevertheless, you find all the ruins and derelict habitats left behind by transhumanity to be fascinating to explore, so you spend much of your time combing through spacecraft hulls and shattered stations, looking for curiosities and lost treasures. Such activities tend to take you close to Earth as well, where you support the efforts of those who hope to take the planet back. Your ultimate dream is to someday swim in the oceans of your ancestors. ■

"Maybe it's the kind of trap that would catch a knuckle-dragging monkey, but my superior physiology was able to easily squeeze out of it."

SCUM ENFORCER

APTITUDES

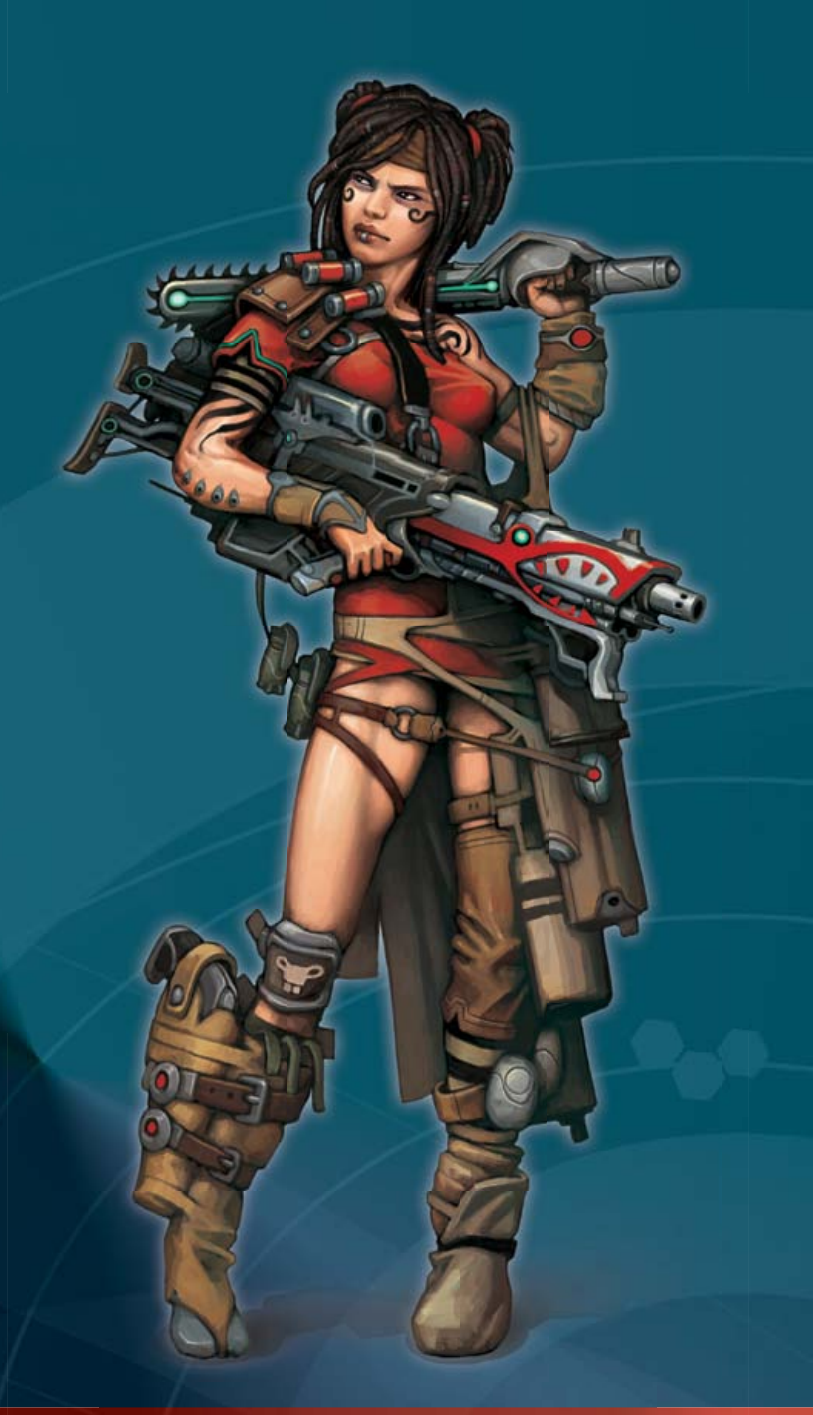
	COG	COO	INT	REF	SAV	SOM	WIL
Base	10	20	15	20	10	20	10
Morph Bonus		5	5	5		10	5
Total	10	25	20	25	10	30	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
5	4 (6)	20 (30)	40 (60)	10	50	75	70 (90)	1 (2)

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Linguistics	COG	50		50
Art: Dance	INT	55	5	60
Beam Weapons	COO	40	5	45
Blades	SOM	60	10	70
Climbing	SOM	40	10	50
Clubs	SOM	50	10	60
Fray	REF	70	5	75
Free Fall	REF	60	5	65
Hardware: Armorer	COG	40		40
Infiltration	COO	50	5	55
Interests: Drug Dealers	COG	50		50
Interests: Gambling	COG	40		40
Interests: Scum Gangs	COG	50		50
Interests: Triad Politics	COG	50		50
Intimidation	SAV	60		60
Kinesics	SAV	40		40
Kinetic Weapons	COO	60	5	65
Language: Native Spanish	INT	80	5	85
Language: Cantonese	INT	55	5	60
Networking: Autonomists	SAV	50		50
Networking: Criminals	SAV	50		50
Perception	INT	45	5	50
Persuasion	SAV	20		20
Profession: Bodyguarding	COG	40		40
Profession: Protection Rackets	COG	50		50
Profession: Security Ops	COG	50		50
Scrounging	INT	25	5	30
Unarmed Combat	SOM	60	10	70



Background: **Scumborn**
Faction: **Scum**
Morph: **Fury**
Motivations: **+Adventure +Hedonism +Morphological Freedom**

TRAITS
Ego: Minor Addiction (Alcohol) ■

REP
@-rep: 60
c-rep: 40

EQUIPMENT
Armor: Bioweave Armor (Light) + Body Armor (Heavy) with Offensive Armor and Shock Proof mods [15/16] ■
Primary Weapon: Kinetic Pistol (100 rounds regular ammo) ■
Starting Credit: 1,000 ■

Implants: Basic Biomods, Basic Mesh Inserts, Bioweave Armor (Light), Cortical Stack, Cyberclaws, Enhanced Vision, Medichines, Neurachem (Level 1), Toxin Filters ■
Gear: Backup Insurance (1 month), Cuffband, Kick (2 doses), Kinetic SMG with 100 rounds regular ammo, Monofilament Sword, Muse, Nanobandages (5), Shock Gloves, Tactical Network Software, Wasp Knife ■

Those jokers in the inner system just don't get it—the future is about taking life by the enhanced reproductive organs and squeezing every juicy drop out. You live the life you want to live, doing whatever you like to your bodies and mind, and you plan to enjoy the hell out of it until maybe you get to watch the universe end. Right now, you get your kicks with action, either the violent or kinky kind—sometimes both. You thrive as a tough chick who will smack the hell out of anyone who threatens your friends or clients during the day, but the real fun is taking home a different partner every night. ■

"Oi! Pretty boy! If that's the best punch you can throw, then you're never gonna get to see the rest of my mods!"

SOCIALITE ESCORT

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	10	15	10	20	15	20
Morph Bonus		5	5		5		
Total	15	15	20	10	25	15	20

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
5	8	40	80	6	30	45	50 (70)	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Anthropology	COG	55		55
Animal Handling	SAV	45	5	50
Art: Dancing	INT	60	5	65
Art: Erotic Entertainment	INT	70	5	75
Art: Singing	INT	60	5	65
Beam Weapons	COO	35	5	40
Deception	SAV	50	5	55
Disguise	INT	45	5	50
Fray	REF	40		40
Impersonation	SAV	40	5	45
Infiltration	COO	40		40
Infosec	COG	35	5	40
Interests: Art History	COG	60		60
Interests: Celebrity Gossip	COG	55		55
Interests: Social Cliques	COG	65		65
Kinesics	SAV	60	5	65
Language: Native French	INT	85		85
Language: Mandarin	INT	45		50
Language: Japanese	INT	45		50
Networking: Autonomists	SAV	45	5	50
Networking: Firewall	SAV	30	5	35
Networking: Hypercorps	SAV	50	5	55
Networking: Media	SAV	60	5	65
Palming	COO	30	5	35
Perception	INT	35	5	40
Persuasion	SAV	60	5	65
Profession: Escorting	COG	55		55
Protocol	SAV	60	5	65
Unarmed Combat	SOM	60		60

Background: **Hyperelite**
Faction: **Socialite**
Morph: **Pleasure Pod**
Motivations: **+Hedonism +Hypercapitalism +Personal Career**

TRAITS
Ego: 'First Impression ■
Morph: Social Stigma (Pod) ■

REP
c-rep: 30
f-rep: 40
g-rep: 20
i-rep: 10

EQUIPMENT
Armor: Second Skin [1/3] ■
Primary Weapon: Claws ■
Starting Credit: 8,500 ■

Implants: Basic Biomods, Basic Mesh Inserts, Claws, Clean Metabolism, Cortical Stack, Cyberbrain, Enhanced Hearing, Enhanced Pheromones, Implanted Nanotoxins (Necrosis), Mnemonic Augmentation, Sex Switch, Skinflex ■
Gear: Backup Insurance (1 month), Hither (1 dose), Muse, Orbital Hash (2 doses), Servitor Bot, Smart Clothing, Smart Rats (2), XP Clips (5) ■

You are immersed in the social cliques and glitterati lifestyle of the inner system elites. You specialize in being the ideal companion, offering witty banter and entertainment and providing for all your client's wishes and desires. You are more than just a pretty face and good time, however, and are capable of offering your client discreet protection from plotting rivals thanks to some judicious bodyguard training and non-standard modifications. Given the constantly shifting allegiances and manipulations of the bored and undying rich, you have even on occasion used your skills to get close to a client in order to eliminate them for a rival. ■

"I'm just here to make sure you have the night of your life!"

TITANIAN EXPLORER

APTITUDES

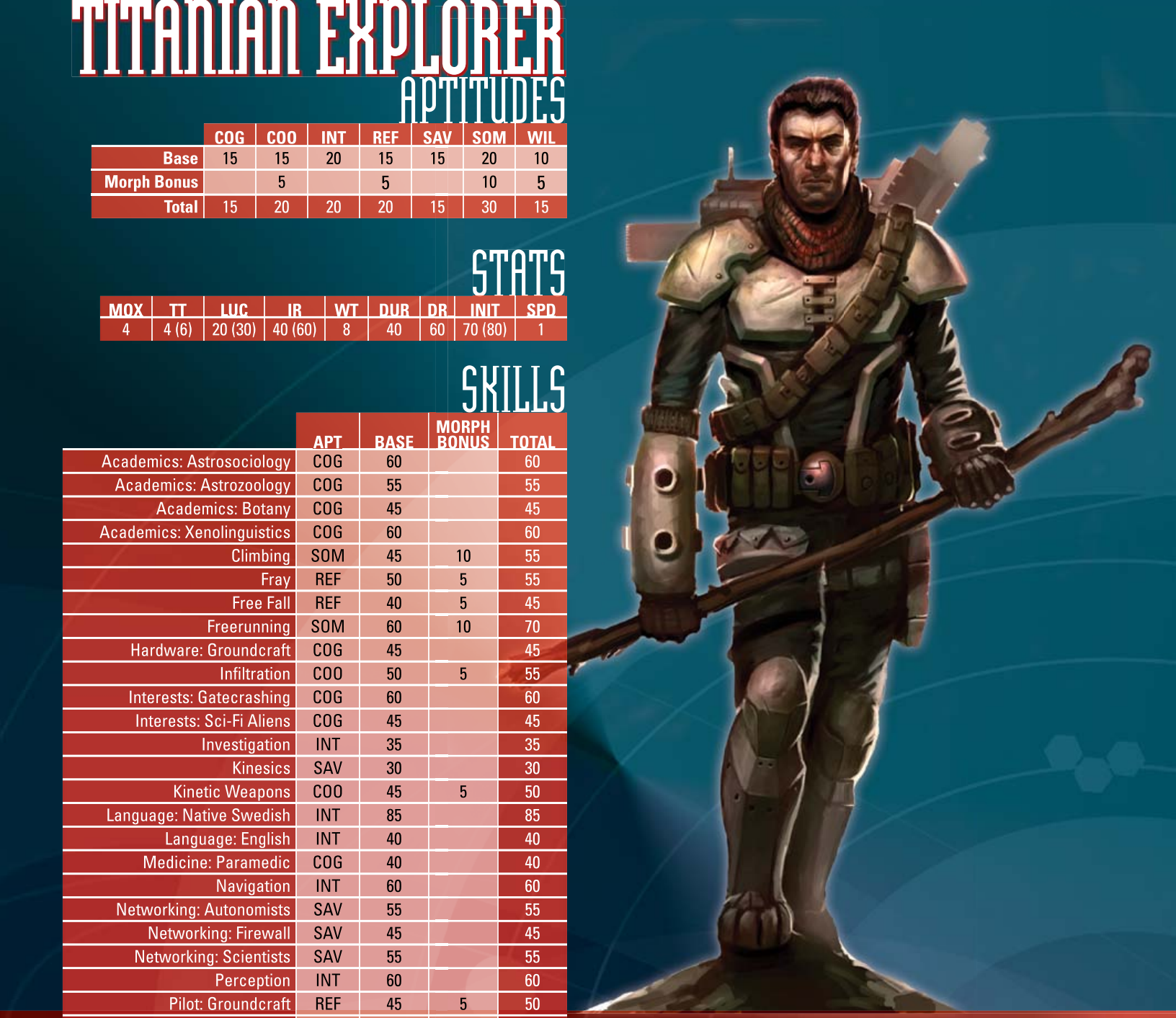
	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	15	20	15	15	20	10
Morph Bonus		5		5		10	5
Total	15	20	20	20	15	30	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
4	4 (6)	20 (30)	40 (60)	8	40	60	70 (80)	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Astrosociology	COG	60		60
Academics: Astrozoology	COG	55		55
Academics: Botany	COG	45		45
Academics: Xenolinguistics	COG	60		60
Climbing	SOM	45	10	55
Fray	REF	50	5	55
Free Fall	REF	40	5	45
Freerunning	SOM	60	10	70
Hardware: Groundcraft	COG	45		45
Infiltration	COO	50	5	55
Interests: Gatecrashing	COG	60		60
Interests: Sci-Fi Aliens	COG	45		45
Investigation	INT	35		35
Kinesics	SAV	30		30
Kinetic Weapons	COO	45	5	50
Language: Native Swedish	INT	85		85
Language: English	INT	40		40
Medicine: Paramedic	COG	40		40
Navigation	INT	60		60
Networking: Autonomists	SAV	55		55
Networking: Firewall	SAV	45		45
Networking: Scientists	SAV	55		55
Perception	INT	60		60
Pilot: Groundcraft	REF	45	5	50
Pilot: Spacecraft	REF	35	5	40
Profession: First Contact	COG	60		60
Profession: Surveying	COG	45		45
Profession: Smuggling Tricks	COG	60		60
Protocol	SAV	50		50
Scrounging	INT	60		60



Background: **Drifter**
Faction: **Titanian**
Morph: **Olympian**
Motivations: **+Alien Contact +Exploration +Nano-Ecology**

TRAITS
None ■

REP
@-rep: 50
i-rep: 20
r-rep: 30

EQUIPMENT
Armor: Vacsuit (Standard Smartfabric with Immunogenic System) [7/7] ■
Primary Weapon: Kinetic Assault Rifle (100 rounds regular ammo) ■
Starting Credit: 4,150 ■

Implants: Adrenal Boost, Basic Biomods, Basic Mesh Inserts, Cortical Stack, Direction Sense, Enhanced Vision, Medichines, Oxygen Reserve, Temperature Tolerance ■
Gear: Backup Insurance (1 month), Breadcrumb Positioning System, Diamond Ax, Electrogravitics Net, Electronic Rope, Knife, Portable Lidar/Radar Sensor System, Radio Booster, Saucer Bot, Shelter Dome, Specimen Container, Spindle with Spindle Climber, Tactical Network Software, Traction Pads, Utilitool ■

The gates have opened a new frontier to transhumanity and you are ready to step through and face the challenges such opportunities bring. You are a professional gatecrasher, eager to experience new worlds first-hand, despite the dangers—or even because of them. Unlike those who feel that new planets should be protected and preserved, you support colonizing and expanding transhumanity's presence while maintaining a minimal impact on alien ecosystems. You are also trained in First Contact scenarios and are hopeful of finding new intelligent life—hopefully without sparking some kind of deadly interstellar incident. ■

"I just finished my analysis of the xenolife amino acids and it's nothing close to what the Boyle-Cross hypothesis suggested it should be."

ULTIMATE MERC

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	10	20	15	20	10	15	15
Morph Bonus	10	5		5	5	10	
Total	20	25	15	25	15	25	15

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
3	6	30	60	8	40	60	70 (80)	1 (2)

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Military Science	COG	60	10	70
Academics: Philosophy	COG	60	10	70
Beam Weapons	COO	60	5	65
Climbing	SOM	35	10	45
Clubs	SOM	50	10	60
Fray	REF	65	5	70
Free Fall	REF	50	5	55
Freerunning	SOM	45	10	55
Gunnery	INT	45		45
Hardware: Armorer	COG	50		60
Infiltration	COO	50	5	55
Interests: Literature	COG	50	10	60
Interests: Military History	COG	55	10	65
Intimidation	SAV	35	5	40
Kinetic Weapons	COO	60	5	65
Language: Native Turkish	INT	80		80
Language: English	INT	60		60
Language: German	INT	45		45
Medicine: Paramedic	COG	40	10	50
Networking: Hypercorps	SAV	50	5	55
Perception	INT	50		50
Pilot: Groundcraft	REF	30	5	35
Profession: Military Ops	COG	55	10	65
Profession: Security Ops	COG	50	10	60
Profession: Squad Logistics	COG	55	10	65
Seeker Weapons	COO	60	5	65
Spray Weapons	COO	35	5	40
Scrounging	INT	25	5	30
Throwing Weapons	COO	40	5	45
Unarmed Combat	SOM	60	10	70

Background: **Lunar Colonist**
Faction: **Ultimate**
Morph: **Remade**
Motivations: **+Immortality +Individualism +Personal Development**

TRAITS
Ego: Brave ■
Morph: Uncanny Valley ■

REP
c-rep: 50

EQUIPMENT
Armor: Body Armor (Heavy) with Refractive Glazing [16/13] ■
Primary Weapon: Railgun SMG (100 rounds regular ammo, 100 rounds AP ammo) ■
Starting Credit: 4,450 ■

Implants: Basic Biomods, Basic Mesh Inserts, Circadian Regulation, Clean Metabolism, Cortical Stack, Eidetic Memory, Enhanced Respiration, Enhanced Vision, Hand Laser, Medichines, Neurachem (Level 1), Temperature Tolerance, Toxin Filters, T-Ray Emitter ■
Gear: Backup Insurance (1 month), HE Grenades (10), Muse, Particle Beam Bolter, Tactical Network Software, Vibroblade ■

You are a warrior-philosopher, embracing an ascetic lifestyle for your own personal growth. You decry the hedonism and greed of the inner system and the collectivism and anarchy of the autonomists, but you're more than willing to take their pay so that they may kill each other. You follow your own path, however, and when you cease to learn from an experience or increase your own personal capabilities you will move on to the next. You mostly find employment in the inner system, where various social cliques and hypercorps favor ultimates like yourself, knowing they are less likely to be tempted or subverted by rivals. In the end it doesn't matter who pays the credit; you'll take from them, learn from them, and be here long after they've destroyed themselves with their petty intrigues and flawed ideologies. ■

"Your beliefs blind you to your true potential."

VENUSIAN NEGOTIATOR

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base	15	15	15	10	20	15	15
Morph Bonus		5			10		5
Total	15	20	15	10	30	15	20

STATS

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD
5	6 (8)	30 (40)	60 (80)	7	35	53	50	1

SKILLS

	APT	BASE	MORPH BONUS	TOTAL
Academics: Memetics	COG	70		70
Academics: Psychology	COG	60		60
Academics: Sociology	COG	60		60
Art: Rhetoric	INT	55		55
Art: Speech	INT	60		60
Deception	SAV	60	10	70
Fray	REF	25		25
Interests: Cultural Memes	COG	60		60
Interests: Hypercorps	COG	50		50
Interests: Inner System Politics	COG	60		60
Intimidation	SAV	50	10	60
Investigation	INT	55		55
Kinesics	SAV	70	10	80
Language: Native Arabic	INT	85		85
Networking: Firewall	SAV	50	10	60
Networking: Hypercorps	SAV	50	10	60
Networking: Media	SAV	60	10	70
Perception	INT	45		45
Persuasion	SAV	50	10	60
Pilot: Aircraft	REF	20		20
Pilot: Groundcraft	REF	20		20
Profession: Culture Jamming	COG	50		50
Profession: Media Ops	COG	60		60
Profession: Spin Control	COG	55		55
Protocol	SAV	60	10	70
Psychosurgery	COG	45		45
Research	COG	45		45

Background: **Reinstantiated**
Faction: **Venusian**
Morph: **Sylph**
Motivations: **+Fame +Personal Career +Venusian Sovereignty**

You are known as a communicator and deal-maker, but you are perhaps best described as a social engineer. In an age of mimetic skirmishes, you excel in shaping policy and public opinion. A nightmare combination of marketing agent and political officer, you are adept at media relations, spin control, suppressing dangerous ideas, psychological warfare, ideological purity, and whipping a crowd into a frenzy. Your social manipulation skills work even better face-to-face, where you can run rhetorical circles around opponents and scan body language and microexpressions to spot the slightest hint of untruthfulness or deception. You excel at fostering dissension and fragmenting loyalties, ultimately getting others to do exactly what you want while convincing them it's in their own best interests. ■

TRAITS
Ego: Common Sense ■
Morph: Striking Looks (Level 1) ■

REP
c-rep: 80
f-rep: 60
i-rep: 60

EQUIPMENT
Armor: Armor Clothing [3/4] ■
Primary Weapon: None ■
Starting Credit: 5,700 ■
Implants: Basic Biomods, Basic Mesh Inserts, Clean Metabolism, Cortical Stack, Endocrine Control, Enhanced Pheromones, Medichines, Mnemonic Augmentation, Nanophages ■
Gear: Backup Insurance (1 month), Facial/Image Recognition Software, 4 Gnat Bots, Muse, Servitor Bot, Specs, Tracking Software ■

"It's time we discussed these rumors of Planetary Consortium interference in Morningstar's affairs."

SKILLS

6

APTITUDES

These are ingrained abilities that every character has, to varying degrees. ■ **p. 172**

LEARNED SKILLS

The most important part of a character, these represent acquired knowledge that is carried with them, even if they switch morphs. ■ **p. 172**

Knowledge Skills: Things that you *know.* ■ **p. 172**

Active Skills: Things that you know how *to do.* ■ **p. 172**

Combat **Mental** **Physical** **Social** **Technical** **Vehicle**

Psi (You'll need the Psi Trait to use Psi skills!)

SKILL LIST AND NECESSARY SKILLS

Every character will want a few key skills, and there's a list of every skill to reference, as well. ■ **p. 176**

APTITUDE-ONLY TESTS

In rare cases, a test may be called for in which no particular skill applies. In this case, one or more aptitudes are used instead. ■ **p. 174**

LANGUAGES

Many languages are spoken throughout the solar system. The mesh makes instant translations easy, but despite this, many people are still versed in two or more languages. ■ **p. 181**

In a setting where physical looks and capabilities are easily changed at the push of a button, who you are and what you know is more important than any inborn ability. Skills represent the knowledge your character has, the accumulated set of experience, education, and inherent know-how possessed by each and every sentient transhuman in *Eclipse Phase*. They are what allow you to sneak into a hypercorp station, disable the security systems, hack the mesh hub, and then impersonate security personnel to make your escape. Your skills represent the one thing you have no matter what you look like or where you find yourself. When your characters explore what they can do, their skills, or lack thereof, often determine the margin between success and failure.

Having a well-rounded set of skills is vital to survival and success in *Eclipse Phase*. The skills below encompass a wide selection of talents, enough so that each character can be unique in their abilities and knowledge.

SKILLS OVERVIEW

Skills are divided into *aptitudes* and *learned skills* (see *Character Skills,* p. 123). Most (but not all) learned skills are built on and linked to an aptitude. If a character lacks the specific skill needed in a situation, they may default to the linked aptitude. You may also choose to specialize in certain skills (see *Specializations,* p. 123), reflecting an enhanced knowledge of a particular aspect of a certain skill.

CORE SKILLS: APTITUDES

Aptitudes represent inherent skills and abilities acquired at birth or during the course of growing up. Aptitudes are sometimes used for tests, but their primary use is determining the starting point at which learned skills are developed. Aptitudes determine the starting value of their linked skills. For example, a character with Somatics aptitude 10 who wishes to purchase points in the Freerunning skill (which is linked to Somatics) would start with a Freerunning rank of 10 and then buy additionally points in that skill.

Aptitudes are also used when a character doesn't posses knowledge of a needed skill (see *Defaulting,* p. 116). Aptitudes represent the basic knowledge that a character has acquired regarding rudimentary use of that skill. They may not have ever received any formal training with the skill, but they can still attempt to use it.

Aptitudes range in value from 1 to 30, with 10 being the unaugmented human average and 15 representing the average of most genetically modified transhumans. Since aptitudes represent untrained ability, they are capped at a maximum rating of 30.

There are seven different aptitudes that all players possess. These aptitudes are purchased during character creation (p. 128), but depending on the morph the character is currently inhabiting, they may find their aptitudes capped by the quality of the morph (see p. 124).

LEARNED SKILLS

A player's learned skills are the most important part of their character, representing the acquired knowledge they carry with them from morph to morph, knowledge that plays a fundamental role in helping define the person's ego. Learned skills encompass nearly any skill that you might need to use in *Eclipse Phase,* and they range in value from 0 to 99.

All learned skills have a linked aptitude that is used to calculate their initial value, and which is also defaulted to if the player does not have that particular skill.

SKILL CATEGORIES

Each learned skill is classified as either an *Active skill* or a *Knowledge skill*. Active skills represent skills that typically require physical actions and are used in action scenes within game play. Knowledge skills are more knowledge-based and intellectual, representing ideas and facts. Knowledge skills may play a less dramatic role in certain action-oriented game play moments, but they flesh out the character's background and interests and are integral to roleplaying interactions. Active and Knowledge skills are purchased separately during character creation.

Active skills are further divided into Combat, Mental, Physical, Psi, Social, Technical, and Vehicle skills. Certain traits and abilities may apply to specific categories.

FIELD SKILLS

Some learned skills are *field skills,* meaning that when this skill is chosen a particular field of emphasis must also be selected. For example, the skill of Academics requires the character to specify a specific academic discipline in which they are knowledgeable, such as Biology, Chemistry, or Xenosociology. Field skills are written as "[skill]: [field];" for example: "Art: Painting." Field skills can be taken multiple times, choosing a different area of emphasis each time, reflecting skills in different fields; that is to say, each field is a separate skill. Several suggested fields are listed for each field skill, but gamemasters and players may also cooperate to create others that fit their games.

Field skills may also have specializations; for example, Professional: Accounting (Money Laundering).

PSI SKILLS

Psi refers to the ability to perceive and manipulate biological minds via psi waves and/or other inexplicable phenomena. Due to the uniqueness of this ability, characters that wish to wield psi must acquire the Psi

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

trait (p. 147). Psi use also requires a number of specialized skills (Control, Psi Assault, and Sense) that reflect special training characters acquire to tap into their psi powers. Psi skills may not be defaulted on; the only way to use a psi skill is to possess the trait along with training in that skill. For more details, see *Psi,* p. 220.

Specializations

Any character may opt to specialize in a given skill (see *Specializations,* p. 123). This specialization reflects increased knowledge in one particular aspect of the skill. Many of the skills offered below include sample specializations. Gamemasters and players are encouraged to develop other specialization ideas together for their campaigns.

Specialization provides a +10 modifier when using that skill in a situation appropriate to that specialization.

Using Skills

Whenever a character wants to do something using a skill, they must succeed at a skill test (see *Making Tests,* p. 115). The difficulty of the action is applied as a modifier, as are any other extenuating circumstances that may affect the test (see *Difficulty and Modifiers,* p. 115). As with other types of tests, all skill tests are successful when the character rolls less than or equal to the test's target number after any modifiers have been applied. In the case of skill tests, the target number is the character's skill rating with that particular skill. Modifiers representing difficulty and other factors are applied directly to the target number (see *Difficulty and Modifiers,* p. 115). A roll of a 00 is always a success, regardless of modifiers, and a result of 99 is always a failure, again despite any modifiers that may increase a character's target number over 100. Standard critical success and failure rules apply to skill tests (see *Criticals: Rolling Doubles,* p. 116), so any time a character rolls a double (i.e. 00, 11, 22, 33, etc.) they score a critical success or failure.

Defaulting

Sometimes you lack the skill needed in a certain situation. In these instances, characters may default their skill test to the linked aptitude. This reflects the fact that most learned skills are developed from some sort of baseline physical ability. Even though you may not know how to do something, you've likely seen how it's done at some point or have some idea of how to do it, or can at least take a shot at it. Naturally, you're not as good as someone who has training in that skill, but it still allows you to make an attempt.

Not all skills can be defaulted. Some skills are simply too complex or obscure, or demand special knowledge or ability, for someone to attempt their use untrained. For example, brain surgery or most psi skills are simply beyond anyone who doesn't have that ability or the knowledge of what they're attempting.

Defaulting to Field Skills

In some cases, a character may not possess the particular field skill that a test calls for, but they may be skilled in another related field. For example, a test to conduct an alien autopsy might call for an Academics: Xenobiology roll, but a character who doesn't have that skill may be allowed to default to Academics: Biology instead. The gamemaster decides if and when to allow this, perhaps applying a modifier to the test based on the difference between fields.

Defaulting to Related Skills

If the gamemaster allows it, characters may default to a related skill that also has some relevance to the test at hand. For example, a character skilled in Kinetic Weapons might not be trained in the use of a laser, but they know enough to point at the target and pull the trigger. Likewise, a character might not be skilled in Investigation, but the gamemaster could still allow them to use their Perception skill instead in order to realize that a body had been moved from the place where it had been shot. In situations like this, when the gamemaster allows defaulting to a related skill, a –30 modifier should be applied to the test.

EXAMPLE

Srit is wandering through a black market souk on Mars, trying to find a particular piece of sensory equipment. The gamemaster calls for a Scrounging Test, but Srit does not have that skill. She could default her INT of 22, but instead she asks the gamemaster if she can default to the related skill of Perception, which she has at 82. The gamemaster agrees, and so Srit rolls against a target number of 52 (82 – 30).

Complementary Skills

Sometimes more than one skill may apply to a particular test, or knowledge in one area can aid your skill in another. In this case, the gamemaster may apply a modifier to the skill test based on the strength of the complementing skill, as noted on the Complementary Skill Bonus table.

EXAMPLE

Dav is hoping to persuade a brinker pilot to take him to an isolated habitat that doesn't welcome visitors. To impress upon the pilot that he is a friend of these particular isolates, he calls on his knowledge of their particular cultural practices (Interests: Religious Cults skill at 45). The gamemaster allows this and applies a +20 modifier to Dav's Persuasion Test.

COMPLEMENTARY SKILL BONUS

SKILL RATING	MODIFIER
01–30	+10
31–60	+20
61+	+30

APTITUDE RANGE

RATING	ASSESSMENT	SOMATICS	COORDINATION	REFLEXES	COGNITION	INTUITION	SAVVY	WILLPOWER
1–5	child average	inept	clumsy	slow	limited	aware	awkward	distracted
6–10	adult average	weak	able	paced	intelligent	perceptive	personable	controlled
11–15	transhuman average	fit	coordinated	swift	bright	sharp	charismatic	focused
16–20	enhanced	enhanced	agile	fast	learned	uncanny	dazzling	resolute
21–25	superhuman	gifted	nimble	lightning	brilliant	prescient	mesmerizing	unwavering
26-30	posthuman	elite	unerring	synaptic	genius	near omniscient	hypnotic	unshakable

SKILL RANGES

What is the difference between being a clumsy neophyte wobbling in zero gravity and being a veteran gliding effortlessly through space as though you were dancing? The answer is training and skill. The greater your skill, the more likely you are to not only succeed at what you want to do, but succeed well.

Aptitudes in *Eclipse Phase* range from 1 to 30, while learned skills range from 0 to 99. These numbers are an abstraction of the range of transhuman abilities and traits. The Aptitude Range table provides a breakdown of different aptitude levels and how they relate to each other. Likewise, the Learned Skill Range table provides an interpretation for the capabilities at different skill levels.

APTITUDES

There are 7 aptitudes in *Eclipse Phase*, described on p. 123. Each character has these aptitudes at a minimum rating of 1.

APTITUDE-ONLY TESTS

In rare cases, a test may call for using an aptitude only, rather than a learned skill. This should only occur when no learned skills are appropriate to the test, and these circumstances are usually noted in the rules.

Aptitude-only tests must be handled carefully, as the range of aptitude ratings (1–30) is typically much smaller than the rating of learned skills (0–99). For this reason, most aptitude tests should use a target number equal to the aptitude x 3. In rare cases where the test is more difficult, the gamemaster may simply use an aptitude x 2, or just the straight aptitude rating. In some cases, more than one aptitude may be relevant to the test, and so they may be added together to derive the target number.

What follows are a few examples where an aptitude-only test might be appropriate. Gamemasters may call for similar tests in other situations, but learned skills should be used whenever possible.

LEARNED SKILL RANGES

SKILL	EQUIVALENCE
00	No exposure or familiarity, completely unskilled
10	Very rudimentary knowledge
20	Basic operator's proficiency (driver's license, gun permit, high school diploma)
30	Hands-on experience, some professional training
40	Basic professional certification (police driving, army rifle certified, college diploma)
50	Experience from professional-level work, some advanced training
60	Expert competence (competitive driver, marksman, PhD)
70	Experience from expert-level work, has had unique innovations or insights
80	Worthy of being a system-renowned authority on the subject
90	Nobel/Olympic/grandmaster
99	Pinnacle of current understanding and innovation

APTITUDE COMPARISON: FLATS VS. SPLICERS AND EXALTS

Compared to humans in the early 21st Century, the average transhuman in the world of *Eclipse Phase* is faster, smarter, stronger, and healthier than their unaugmented predecessors. Normal unaugmented humans, called flats (p. 139), most closely approximate the type of person that was born in our time. The majority of people, however, inhabit bodies that are known as splicers (p. 139) or exalts (p. 139) (well, those with biological bodies anyway). Splicers are genefixed to avoid genetic defects and optimized for certain characteristics, while exalts are tweaked to make them superior across the board: they are more attractive, more athletic, have greater cognitive capacity, and are more attuned to the world around them than their unaugmented kin. ■

Brute Strength

Any test that involves simple brute strength can be handled as an SOM x 3 Test. Use this when smashing down a door, breaking an item in half, engaging in a tug-of-war, or lifting and carrying a heavy item.

Catching Thrown Objects

Use REF + (COO x 2) any time you need to catch a thrown or dropped object, such as catching a baseball, saving a priceless vase from shattering, or throwing back a grenade (see p. 200).

Composure and Resolve

Various game situations may frighten your character, turn their stomach, horrify them, or rattle them to the core of their being. Use WIL x 3 to determine if your character can hold their ground, keep it down, and pull themselves together.

Escape Artist

If a character wants to slip free of physical bonds (such as ropes or handcuffs) or otherwise contort themselves (such as wriggling out from under a collapsed wall or an overturned vehicle), an Escape Artist Test may be called for using the character's COO + SOM. Apply modifiers appropriate to the difficulty of the situation. At the gamemaster's discretion, escaping from some restraining situations may be considered a Task Action with an appropriate timeframe.

Having an Idea

Sometimes the players miss the obvious, or their personal mindset or biases cause them to misinterpret a situation or understand events in a way different from how the actual character would. In cases like this, the gamemaster can call for an INT x 3 or COG x 3 roll (whichever is more appropriate) to determine if the character gets an idea that will help them along. This test should be used sparingly, and only for assessing the character's interpretation of obvious and known facts and details.

Memorizing and Remembering

Memories are what egos use to maintain continuity of self from morph to morph, but humans are notorious for remembering things incorrectly. Whenever characters attempt to recall a memory or memorize some piece of information, use COG x 3 to determine how well they succeed. Note that characters with eidetic memory (p. 146 or 301) or mnemonic augmentation (p. 307) have perfect memory, so no test is required.

COMPLETE SKILL LIST

This section details all of the learned skills available in *Eclipse Phase*. Gamemasters and players may, of course, agree to add additional skills to this list as appropriate to their campaign.

ACADEMICS: [FIELD]

Type: Field, Knowledge
Linked Aptitude: COG

What it is: Academics covers any sort of specialized non-applied knowledge you can only get through intensive education. Most theoretical and applied sciences, social sciences, transhumanities, etc. are covered by this skill. Most of the other skills listed in this chapter could also be taken as an Academics field, reflecting a working theoretical knowledge of the skill—for example, Academics: Armorer or Academics: Interrogation.

When you use it: Academics is used when a character wishes to call upon a specific body of knowledge. For example, Academics: Chemistry could be used to identify a particular substance, understand an unusual chemical reaction, or determine what elements are needed to nanofabricate something that requires exotic materials. At the gamemaster's discretion, some Academics-related tests might not be defaultable, given that only someone who has been educated in that subject is likely to be able to tackle it.

Sample Fields: Archeology, Astrobiology, Astronomy, Astrophysics, Astrosociology, Biochemistry, Biology, Botany, Computer Science,

NECESSARY SKILLS

While characters will need a mix of skills to succeed in the varied tasks they encounter in *Eclipse Phase,* some skills are crucial for any character. If a character lacks these, they will have a difficult time getting by, so it is important for players and gamemasters to know these particular skills.

Fray: Fray is the primary skill you use to avoid getting hit in combat. Even if you plan to avoid combat, being able to get out of the way when necessary is a handy survival skill to have.

Networking: Unless you live in total isolation, you need a Networking skill—preferably several. Networking is how you interact with people in a particular social circle to obtain information, spread rumors, call in favors, and so on.

Perception: Perception Tests get called for quite often, so if you want your character to know what's going on around them, make sure to get this skill. Investigation and Scrounging are also good, but Perception is king. ■

SKILL LIST

SKILL	LINKED APTITUDE	CATEGORY
Academics: [Field]	COG	Knowledge
Animal Handling	SAV	Active, Social
Art: [Field]	INT	Knowledge
Beam Weapons	COO	Active, Combat
Blades	SOM	Active, Combat
Climbing	SOM	Active, Physical
Clubs	SOM	Active, Combat
Control	WIL (no defaulting)	Active, Mental, Psi
Deception	SAV	Active, Social
Demolitions	COG (no defaulting)	Active, Technical
Disguise	INT	Active, Physical
Exotic Melee Weapon: [Field]	SOM	Active, Combat
Exotic Ranged Weapon: [Field]	COO	Active, Combat
Flight	SOM	Active, Physical
Fray	REF	Active, Combat
Free Fall	REF	Active, Physical
Freerunning	SOM	Active, Physical
Gunnery	INT	Active, Combat
Hardware: [Field]	COG	Active, Technical
Impersonation	SAV	Active, Social
Infiltration	COO	Active, Physical
Infosec	COG (no defaulting)	Active, Technical
Interest: [Field]	COG	Knowledge
Interfacing	COG	Active, Technical
Intimidation	SAV	Active, Social
Investigation	INT	Active, Mental
Kinesics	SAV	Active, Social
Kinetic Weapons	COO	Active, Combat
Language: [Field]	INT	Knowledge
Medicine: [Field]	COG	Active, Technical
Navigation	INT	Active, Mental
Networking: [Field]	SAV	Active, Social
Palming	COO	Active, Physical
Perception	INT	Active, Mental
Persuasion	SAV	Active, Social
Pilot: [Field]	REF	Active, Vehicle
Profession: [Field]	COG	Knowledge
Programming	COG (no defaulting)	Active, Technical
Protocol	SAV	Active, Social
Psi Assault	WIL (no defaulting)	Active, Mental, Psi
Psychosurgery	INT	Active, Technical
Research	COG	Active, Technical
Scrounging	INT	Active, Mental
Seeker Weapons	COO	Active, Combat
Sense	INT (no defaulting)	Active, Mental, Psi
Spray Weapons	COO	Active, Combat
Swimming	SOM	Active, Physical
Throwing Weapons	COO	Active, Combat
Unarmed Combat	SOM	Active, Combat

Cryptography, Economics, Engineering, Genetics, Geology, Linguistics, Mathematics, Memetics, Nanotechnology, Old Earth History, Physics, Political Science, Psychology, Sociology, Xeno-archeology, Xenolinguistics, Zoology

Specializations: As appropriate to the field

Animal Handling

Type: Active, Social

Linked Aptitude: SAV

What it is: Skilled animal handlers are able to train and control a wide variety of natural and transgenic animals, including partial uplifts. Though many animal species went extinct during the Fall, a few "ark" and zoo habitats keep some species alive, and many others can be resurrected from genetic samples. Exotic animals are considered a sign of prestige among the hypercorp elites, and guard animals are occasionally used to protect high-security installations. Likewise, many habitats and settlements employ small armies of partially uplifted, genetically modified, and behavior-controlled creatures for sanitation or other purposes. Many new and strange breeds of animal are created daily to serve a variety of roles.

When you use it: Animal Handling is used whenever you are trying to manipulate an animal, whether your intent is to calm it down, keep it from attacking, intimidate it, acquire its trust, or goad it into attacking. Your Margin of Success determines how effective you are at convincing the creature. At the gamemaster's discretion, modifiers may be applied to the test. Likewise, winning an animal over may sometimes take time, and so could be handled as a Task Action with a timeframe of five minutes or more.

Specializations: Per animal species (dogs, horses, smart rats, etc.)

Training Animals

Training animals is a time-consuming task requiring repeated efforts and rewards to reinforce the trained behavior. Treat this as a Task Action with a timeframe of one day to one month, depending on the complexity of the action. Apply modifiers to this test based on the relative intelligence of the animal being trained, how domestic it is, and the complexity of the task.

Once an animal has been trained, commanding it is treated as a Simple Success Test (p. 118) except for unusual or stressful situations, in which case the trainer receives a +30 modifier on their Animal Handling Tests when convincing the animal to complete the trained action.

Art: [Field]

Type: Field, Knowledge

Linked Aptitude: INT

What it is: Art confers the ability to create and evaluate artistic endeavors. This is a particularly useful skill in *Eclipse Phase*, especially in the post-scarcity economies where creativity and vision can be a key component to a character's reputation.

When you use it: The Art skill can be used to either create a new work of art or to duplicate an existing piece of art in the hopes of passing it off as your own. The skill can also determine the approximate value of a piece of art either on the open market, for monetary exchange systems, or in terms of reputation for the artist.

Sample Fields: Architecture, Criticism, Dance, Drama, Drawing, Painting, Performance, Sculpture, Simulspace Design, Singing, Speech, Writing

Specializations: As appropriate to the field

Beam Weapons

Type: Active, Combat

Linked Aptitude: COO

What it is: The Beam Weapons skill covers the usage and maintenance of standard coherent beam energy weapons such as lasers, particle beam weapons, plasma rifles, and microwave weapons (p. 338).

When you use it: A player uses their Beam Weapons skill whenever attacking with a beam weapon in combat (p. 191). Beam Weapons may also be used for tests involving maintenance of the weapon, but not for repairing or modifying the weapon (that would be Hardware: Armorer skill).

Specializations: Lasers, Microwave Weapons, Particle Beam Weapons, Plasma Rifles

Blades

Type: Active, Combat

Linked Aptitude: SOM

What it is: The Blades skill covers the usage and maintenance of standard bladed weapons (p. 334).

When you use it: A player uses their Blades skill whenever attacking with a blade weapon in melee combat (p. 191). Blades may also be used for tests involving maintenance of the weapon, but not for repairing or modifying the weapon (that would be Hardware: Armorer skill). This skill is used for blade weapons implanted in the body at the end of an appendage (hands, forearms, feet, octomorph arms, etc.), but the Exotic Melee Weapon skill is used for blades implanted in other parts of the body.

Specializations: Axes, Implant Blades, Knives, Swords

Climbing

Type: Active, Physical

Linked Aptitude: SOM

What it is: Climbing is the skill of ascending and descending sheer surfaces with or without the aid of specialized equipment.

When you use it: This skill is used whenever a character wishes to scale a climbable surface. For heights greater than one story, climbing is handled as a Task Action with a timeframe equivalent to one meter per Action Phase. For rappelling, the timeframe for descent is 50 meters per Action Turn. Climbing gear (p. 332-333) provides appropriate modifiers.

Specializations: Assisted, Freehand, Rappelling

Clubs

Type: Active, Combat
Linked Aptitude: SOM

What it is: The Clubs skill covers the usage and maintenance of standard blunt melee weapons such as batons or sticks (see p. 334).

When you use it: Players use their Clubs skill whenever they want to attack with a blunt weapon in melee combat (p. 191). The Clubs skill may also be used for tests involving maintenance of the weapon, but not for repairing or modifying the weapon (that would be Hardware: Armorer skill).
Specializations: Batons, Hammers, Staffs

Control

Type: Active, Mental, Psi
Linked Aptitude: WIL

What it is: Control is the use of psi to manipulate individuals or actively penetrate their mental processes. This skill is only available to characters with the Psi trait (p. 147).

When you use it: Use Control when taking a psionic tour through a foreign ego—messing around included. See *Psi,* p. 220.
Specializations: By sleight

Deception

Type: Active, Social
Linked Aptitude: SAV

What it is: Deception is your ability to act, bluff, con, fast talk, lie, misrepresent, and pretend. Accomplished users of deception are able to convince anyone of nearly anything. This skill does not include using a physical disguise to appear to be another person (the Impersonate skill covers that area).

When you use it: Use this skill whenever you want to deceive someone with words or gestures. A successful skill test means that you have passed off your deception convincingly. At the gamemaster's discretion, someone who is actively alert for signs of deception may make an Opposed Test using the Kinesics skill.
Specializations: Acting, Bluffing, Fast Talk

Demolitions

Type: Active, Technical
Linked Aptitude: COG (no defaulting)

What it is: Demolitions covers the use of controlled explosives.

When you use it: Use it when making, placing, and disarming explosives and explosive devices. See *Demolitions,* p. 197.
Specializations: Commercial Explosives, Disarming, Improvised Explosives

Disguise

Type: Active, Physical
Linked Aptitude: INT

What it is: Disguise is the art of physically altering your appearance so that you look like someone else. This includes both the use of props (wigs, contacts, skin pigments) and the altering of subtle physical characteristics (gait, posture, poise).

When you use it: Use Disguise to fool someone into thinking you're someone you're not. This can be used to hide your identity or to make yourself look like someone in particular. When used against someone who knows your true look or the appearance of the person you are imitating, this is handled as an Opposed Test against Perception or Investigation.
Specializations: Cosmetic, Theatrical

Exotic Melee Weapon: [Field]

Type: Field, Active, Combat
Linked Aptitude: SOM

What it is: The Exotic Melee Weapon skill covers the use and maintenance of all melee weapons not covered by the Clubs or Blades skills (see p. 334).

When you use it: Use the Exotic Melee Weapon skill when attacking someone with an exotic melee weapon in melee combat (p. 191).
Sample Fields: Morning Star, Spear, Whip
Specializations: N/A

Exotic Ranged Weapon: [Field]

Type: Field, Active, Combat
Linked Aptitude: COO

What it is: Exotic Ranged Weapon skill includes the use and maintenance of all ranged weapons not covered by the Beam, Flechette, Kinetic, Sonic, or Throwing Weapons skills.

When you use it: Use this skill whenever attacking with an exotic ranged weapon in ranged combat (p. 191).
Sample Fields: Blowgun, Crossbow, Flamethrower, Slingshot
Specializations: N/A

Flight

Type: Active, Physical
Linked Aptitude: SOM

What it is: Flight is the skill of using your body to fly. This skill is used when sleeved in or jamming a winged or otherwise flight-capable morph (manual and remote-control flight are handled using Pilot skill).

When you use it: Use this skill whenever you need to make an aerial maneuver, land in difficult conditions, maintain your course in steep winds, or otherwise keep from crashing or falling.
Specializations: Diving, Landing, Takeoff, specific maneuvers

Fray

Type: Active, Combat
Linked Aptitude: REF

What it is: Fray is the ability to get out of the way of incoming attacks, debris, or inconvenient passers-by. Characters that have a high Fray score are able to react quicker than others when dodging or maneuvering.

When you use it: Whenever a character is physically attacked by an opponent in melee combat, roll Fray to avoid getting hit (see p. 191). Fray may also be used

to dodge other events that may harm the character, such as avoiding a charging vehicle or jumping out of the way of a collapsing stack of crates.
Specializations: Blades, Clubs, Full Defense, Unarmed

Free Fall

Type: Active, Physical
Linked Aptitude: REF

What it is: Free Fall is about moving in free-fall and microgravity environments.

When you use it: Use whenever you need to maneuver in a zero-g situation, such as propelling yourself across a large open space or making sure you don't accidentally send yourself spinning off into space. Free Fall is also used when moving with spacesuit maneuvering jets and when parachuting.
Specializations: Microgravity, Parachuting, Vacsuits

Freerunning

Type: Active, Physical
Linked Aptitude: SOM

What it is: Freerunning is part running, part gymnastics. It is about moving fast, maneuvering over/under/around/through obstacles, and placing your body where it needs to go. Freerunning/parkour is a popular pastime in habitats where open space is limited.

When you use it: Use Freerunning whenever you need to overcome an obstacle via movement, such as hurdling a railing, rolling across the hood of a car, jumping across a pit, or swinging around a pole. Freerunning is also used for sprinting (p. 191) and full defense against attacks (p. 198).
Specializations: Balance, Gymnastics, Jumping, Running

Gunnery

Type: Active, Combat
Linked Aptitude: INT

What it is: Gunnery skill covers the use and maintenance of large, vehicular, or non-portable weapons systems. Firing these weapons is more like playing a video game than firing a gun.

When you use it: Use Gunnery when attacking with a vehicle-mounted weapon or weapon emplacement in ranged combat (p. 191).
Specializations: Artillery, Missiles

Hardware: [Field]

Type: Field, Active, Technical
Linked Aptitude: COG

What it is: This skill encompasses the ability to build, repair, physically hack, and upgrade equipment of a specific type.

When you use it: Hardware is primarily used to repair devices, vehicles, habitat systems, or synthetic morphs. See *Building, Repairing,* and *Modifying* below.
Sample Fields: Aerospace (all air and space vehicles), Armorer (armor and weapons), Electronics (all computerized devices), Groundcraft, Implants, Industrial (habitat, factory, and life support systems), Nautical (watercraft and submarines), Robotics (synthetic morphs)
Specializations: As appropriate to the field

Building

Creating an item from scratch is handled as a Task Action with a timeframe determined by the gamemaster. The timeframe should be set according to the complexity of the object and could range from an hour (constructing a set of shelves) to days (assembling a robot from spare parts) to even months (building a house). Numerous factors may apply modifiers to the test, such as the use of entoptic blueprints/help manuals (+20) or poor working conditions (–10 to –30). Tools are also a factor, perhaps making the job easier (superior tools +10 to +30), more difficult (poor or inadequate tools, –10 to –30), or even impossible (lack of required tools).

Repairing

Damaged items may be repaired in a similar manner. See the rules for *Synthmorph and Object Repair,* p. 209.

Modifying

Altering an object's design and function follows the same basic rules as build and repair, above. The timeframe is determined by the gamemaster as appropriate to the modification.

Impersonation

Type: Active, Social
Linked Aptitude: SAV

What it is: Impersonation is the skill of trying to pass yourself off as someone else in social situations, including virtual ones. This includes copying mannerisms and speech patterns and using accumulated information to convince others that you are that person. In a universe where appearance is highly variable, the question of identity is largely one of both trust and picking up on behavioral quirks and verbal cues to recognize a given individual.

When you use it: Sometimes it's fun to pretend you're someone else, and sometimes it's profitable or lifesaving. Use this skill whenever you attempt to convince someone that you are actually someone else through some sort of social or online interaction. Forks use this skill when passing themselves off as their alpha ego. Impersonate is handled as an Opposed Test against the Kinesics skill.
Specializations: Avatar, Face-to-Face, Verbal

Infiltration

Type: Active, Physical
Linked Aptitude: COO

What it is: Infiltration is the art of escaping detection.

When you use it: Use Infiltration whenever you need to physically hide or move with stealth to avoid someone sensing you, whether you are hiding behind a tree, sneaking past a guard, or blending into a crowd. Infiltration can also be used to follow people (shadowing) without them detecting you. Infiltration is an Opposed Test against the Perception of whomever you are hiding from. The gamemaster may wish to roll such tests in secret so the player does not know whether they have succeeded or failed.
Specializations: Blending In, Hiding, Shadowing, Sneaking

Infosec

Type: Active, Technical
Linked Aptitude: COG (no defaulting)

What it is: Infosec is short for "information security." It encompasses training in electronic intrusion and counterintrusion techniques, as well as encryption and decryption.

When you use it: Infosec is used both for hacking into electronic devices and mesh networks and for protecting them. See the *Mesh* chapter, p. 234, for more details.
Specializations: Brute-Force Hacking, Decryption, Probing, Security, Sniffing, Spoofing

Interest: [Field]

Type: Field, Knowledge
Linked Aptitude: COG

What it is: Interest includes just about any topic that captures your attention that isn't covered by another skill. This includes hobbies, obsessions, causes, pastimes, and other recreational pursuits.

When you use it: Use the Interest skill whenever you need to recall or use knowledge related to the particular interest in question.

Field Examples: Ancient Sports, Celebrity Gossip, Conspiracies, Factor Trivia, Gambling, Hypercorp Politics, Lunar Habitats, Martian Beers, Old Earth Nation-States, Reclaimer Blogs, Science Fiction, Scum Drug Dealers, Spaceship Models, Triad Economics, Underground XP
Specializations: As appropriate to the field

Interfacing

Type: Active, Technical
Linked Aptitude: COG

What it is: Interfacing is about using computerized electronic devices and software.

When you use it: Use Interfacing to understand an electronic device you are not familiar with, use a program according to its normal operating parameters, manipulate electronic files of various types (including images, video, XP, and audio files), scan for wireless devices, and otherwise interact with and command your ecto, muse, and other computerized devices. Some Interfacing actions may be Task Actions, with a timeframe determined by the gamemaster. For more detail, see the *Mesh* chapter, p. 234.
Specializations: Forgery, Scanning, Stealthing, by program

Intimidation

Type: Active, Social
Linked Aptitude: SAV

What it is: Intimidation is convincing someone to do what you want based on direct threats (implied or actual) or sheer force of personality.

When you use it: Use Intimidation to scare someone into submission, browbeat them into getting your way, command them to follow your orders, or berate them into giving up information. Influence is handled as an Opposed Test, pitted against the target's WIL + WIL + SAV.
Specializations: Interrogation, Physical, Verbal

Investigation

Type: Active, Mental
Linked Aptitude: INT

What it is: Investigation is the art of analyzing evidence, piecing together clues, solving mysteries, and making logical deductions from groups of facts. Investigation differs from Perception in that it is the conscious search for clues or pieces of a puzzle.

When you use it: Use Investigation to draw conclusions from assorted details. For example, Investigation could be used to determine the likely sequence of events at a crime scene, determine a possible social connection between two people, or deduce how an enemy made their escape. Investigation is a great way

to provide clues to players, especially when the subject matter is something their character might know well but the player does not.

Specializations: Evidence Analysis, Logical Deductions, Physical Investigation, Physical Tracking

KINESICS

Type: Active, Social

Linked Aptitude: SAV

What it is: Kinesics is the art of empathy and nonvocal communication.

When you use it: Use Kinesics to read body language, tells, social cues, and other subconscious indicators. It can also be used to emote more effectively. Kinesics is used defensively whenever someone is trying to deceive you; make an Opposed Test against that person's Deception or Impersonation skill.

Though synthetic morphs are also designed to emote, reading them is not as easy. Apply a –30 modifier when judging a synthetic morph inhabited by a character or AGI. Likewise, standard AIs are also difficult to read; apply a –60 modifier when judging a synthetic morph or pod operated by an AI.

Specializations: Judge Intent, Nonvocal Communication

JUDGING EMOTIONS AND INTENTIONS

Transhumans are empathic beings, and so you can attempt to gauge the demeanor and/or intent of someone you are dealing with by rolling a Kinesics Test. This attempt to read someone is far from exact, however, and it is easy to misjudge. The gamemaster should make this test in secret and only allow a hint if successful—it is not possible to read someone with absolute certainty. If the person being judged is intentionally trying to deceive the character, this should be an Opposed Test against their Deception skill.

NONVOCAL COMMUNICATION

Experts in Kinesics can effectively communicate with each other simply by posture, stances, gestures, demeanors, and looks. Such communication is necessarily limited in the amount of information it can convey, but feelings, attitudes, affirmation/negation, and simple concepts may be passed. To effectively communicate complex concepts, the gamemaster may require successful Kinesics Tests from both parties, applying modifiers as appropriate.

KINETIC WEAPONS

Type: Active, Combat

Linked Aptitude: COO

What it is: Kinetic Weapons covers the use and maintenance of standard kinetic projectile weapons like firearms and railguns (p. 335).

When you use it: Use this skill whenever attacking with a kinetic weapon in ranged combat (p. 191).

Specializations: Assault Rifles, Machine Guns, Pistols, Sniper Rifles, Submachine Guns

LANGUAGES IN *ECLIPSE PHASE*

With the Fall of Earth, the languages that remain most prominent in the solar system are those that were extensively carried into space by countries and hypercorps with aggressive space programs or by the large populations of poor laborers and infomorph refugees that followed. No single language dominated the realm of space expansion, and multilingualism was common. Many habitats and (sub) cultural groupings cling to specific languages as a method of retaining cultural identity. Despite the availability of instant translation via the mesh, many people remain versed in two or more languages.

The ten most common languages in the solar system by speaking populations are: Arabic, Cantonese, English, French, Hindi, Japanese, Mandarin, Portuguese, Russian, and Spanish. Other languages that remain strong include Bengali, Dutch, Farsi, German, Italian, Javanese, Korean, Polish, Punjabi, Swedish, Tamil, Turkish, Urdu, Vietnamese, and Wu. Some languages were effectively lost during the Fall, especially those in some undeveloped regions, as their speaking populations did not migrate into space pre-Fall and were not privileged enough to survive in large numbers as infomorph refugees. ■

LANGUAGE: [FIELD]

Type: Field, Knowledge

Linked Aptitude: INT

What it is: Language covers the speaking and reading of languages other than the player's native tongue. A speaker is considered fluent at a skill level of 50; anything above this indicates further refinement in technical vocabulary, accents, and knowledge of dialects.

When you use it: Use the Language skill whenever you want to speak, understand, or read something in a language at which you are skilled. Most speaking and reading comprehension tests can be considered Simple Success Tests if your skill is over 50, unless the gamemaster rules the subject is sufficiently complex that a non-native speaker would have trouble understanding it.

Sample Fields: Arabic, Cantonese, English, French, Hindi, Japanese, Mandarin, Portuguese, Russian, Spanish

Specializations: As appropriate to the field, representing dialects, technical jargon, and subcultural slang

Medicine: [Field]

Type: Field, Active, Technical
Linked Aptitude: COG

What it is: Medicine is the applied care and maintenance of biological beings and life.

When you use it: Use Medicine whenever you need to apply medical care beyond the immediate help provided by first responders. This includes conducting physical exams, diagnosing ailments, treating problems and illnesses, surgery, using biotech and nanotech medical tools, and long-term care. See *Healing and Repair,* p. 208.

Sample Fields: Biosculpting, Exotic Biomorphs, Gene Therapy, General Practice, Implant Surgery, Nanomedicine, Mercurials (by type), Paramedic, Pods, Psychiatry, Remote Surgery, Trauma Surgery, Veterinary
Specializations: As appropriate to the field

Navigation

Type: Active, Mental
Linked Aptitude: INT

What it is: Navigation is the art of finding your way, whether using AR maps, a compass, the stars, or an astrogation AI.

When you use it: Use Navigation whenever you need to plot out a course, determine a direction, or otherwise keep from getting lost.
Specializations: Astrogation, Map Making, Map Reading

Networking: [Field]

Type: Active, Social
Linked Aptitude: SAV

What it is: Networking is your skill at working your contacts, trading favors, and keeping your finger on the pulse of a particular faction or cultural grouping.

When you use it: Use Networking to gather information or call on services using your Reputation (see *Reputation and Social Networks,* p. 285).

Sample Fields: Autonomists (@-rep), Criminals (g-rep), Ecologists (e-rep), Firewall (i-rep), Hypercorps (c-rep), Media (f-rep), Scientists (r-rep). At the gamemaster's discretion, this list can be expanded to other (sub)cultural groupings.
Specializations: As appropriate to each field

Palming

Type: Active, Physical
Linked Aptitude: COO

What it is: Palming is the skill of handling items quickly and nimbly without others noticing. Palming is not only about dexterous manipulation of objects but also relies heavily on obfuscation, timing, and misdirection.

When you use it: Use Palming any time you are trying to conceal an item on your person, shoplift, pick a pocket, surreptitiously discard something, or perform a magic trick. Palming is an Opposed Test against the Perception of any onlookers. The gamemaster may wish to make this roll secretly.
Specializations: Pickpocketing, Shoplifting, Tricks

Perception

Type: Active, Mental
Linked Aptitude: INT

What it is: Perception is the use of your physical senses (including cybernetic) and awareness of the physical world around you. Perception differs from Investigation in that it is noticing things by chance, rather than actively searching for something.

When you use it: Use Perception whenever you wanted to take a detailed account of your surroundings (see *Detailed Perception,* p. 190). Perception can also be considered an Automatic Action (see *Basic Perception,* p. 190) and so the gamemaster may call for a Perception Test to determine if you notice something; it is recommended that such tests be rolled secretly by the gamemaster. Perception is also used as an Opposed Test whenever someone around you is trying to be sneaky with Infiltration or Palming.
Specializations: Aural, Olfactory, Tactile, Taste, Visual

PERSUASION

Type: Active, Social
Linked Aptitude: SAV

What it is: Persuasion is the art of convincing someone to do what you want through the use of words and gestures. This does not include persuasion through threats or force (that is covered by Intimidation) or by lying (covered by Deception).

When you use it: Use Persuasion any time you are trying to bargain with, convince, or manipulate someone. This can include motivating your subordinates or peers to take action, seducing a companion, winning a political debate, or negotiating a contract, among other things. Persuasion is handled as an Opposed Test against the target's WIL + WIL + SAV when one person is simply trying to win over another. If both parties are trying to convince each other, make it an Opposed Test between Persuasion skills.

Specializations: Diplomacy, Morale Boosting, Negotiating, Seduction

PILOT: [FIELD]

Type: Field, Active, Vehicle
Linked Aptitude: REF

What it is: Pilot is your skill at driving/flying a vehicle of a particular type.

When you use it: You use Pilot skill whenever you need to maneuver, control, or avoid crashing a vehicle, whether you are in the pilot's seat, remote controlling a robot, or directly jamming a vehicle with VR. Each vehicle has a Handling modifier that applies to this test, along with other situational modifiers (see *Bots, Synthmorphs, and Vehicles,* p. 195).

Sample Fields: Aircraft, Anthroform (walkers), Exotic Vehicle, Groundcraft (wheeled or tracked), Spacecraft, Watercraft

Specializations: As appropriate to the field

PROFESSION: [FIELD]

Type: Field, Knowledge
Linked Aptitude: COG

What it is: Profession skills indicate training in a profession practiced in *Eclipse Phase*. This can indicate either formal training or informal, on-the-job type training, and includes both legal and extralegal trades.

When you use it: Use Profession to perform work-related tasks for a specific trade (i.e. mining, balancing accounts, designing a security system, etc.) or to reference specialized knowledge that someone trained in that profession might have.

Sample Fields: Accounting, Appraisal, Asteroid Prospecting, Banking, Cool Hunting, Con Schemes, Distribution, Forensics, Lab Technician, Mining, Police Procedures, Psychotherapy, Security Ops, Smuggling Tricks, Social Engineering, Squad Tactics, Viral Marketing, XP Production

Specializations: As appropriate to the field

PROGRAMMING

Type: Active, Technical
Linked Aptitude: COG (no defaulting)

What it is: Programming is your talent at writing and modifying software code.

When you use it: Use Programming to write new programs, modify or patch existing software, break copy protection, find or introduce exploitable flaws, write virii or worms, design virtual settings, and so on. See the *Mesh* chapter, p. 234. Programming is also applied when using nanofabrication devices.

Specializations: AI Code, Malware, Nanofabrication, Piracy, Simulspace Code

NANOFABRICATION

Nanofabrication is use of Programming skill to create objects using a cornucopia machine, fabber, or maker (p. 327). If you have appropriate blueprints and raw materials, most uses of a nanofabricator can be treated as a Simple Success Test (p. 118). If you wish to create an item for which you do not have blueprints or the proper raw materials, however, or you wish to alter an item's design, then a Nanofabrication Test is called for. See *Nanofabrication,* p. 284.

Specializations: Art, Clothing, Electronics, Food, Forgery, Weapons

PROTOCOL

Type: Active, Social
Linked Aptitude: SAV

What it is: Protocol is the art of making a good impression in social settings. This includes keeping up with the latest memes, trends, gossip, interests and habits of various (sub)cultural group.

When you use it: Use Protocol whenever you need to choose your words carefully, determine who is the appropriate person to speak to, impress someone with your grasp of customs, or otherwise fit into a specific social/cultural grouping. Part etiquette, part streetwise, Protocol allows you to navigate treacherous social waters and put people at ease. If the character is dealing with a suspicious or hostile audience, make this an Opposed Test against the target's WIL + WIL + SAV.

Specializations: Anarchist, Brinker, Criminal, Factor, Hypercorp, Infomorph, Mercurial, Reclaimer, Preservationist, Scum, Ultimate

NEGATING SOCIAL GAFFES

Sometimes a player will make a mistake that their character never would, whether that's failing to stand in the presence of hypercorp royalty, confusing a gang leader for a peon, or accidentally insulting someone's heritage. In cases like this, the player may make a Protocol Test for the appropriate field in order to negate the gaffe. If successful, the character never actually screwed up, or at least managed to cover their tracks without ruffling any feathers.

Psi Assault

Type: Active, Mental, Psi
Linked Aptitude: WIL

What it is: Psi Assault is the skill of damaging another ego's mind. It can only be purchased by characters with the Psi trait (p. 147).

What it does: Use Psi Assault when attacking another ego's mind in psi combat.
Specializations: By sleight

Psychosurgery

Type: Active, Technical
Linked Aptitude: INT

What it is: Psychosurgery is the use of machine-aided psychological techniques to repair, damage, or manipulate the psyche.

When you use it: Use Psychosurgery to attempt the tricky process of editing someone's mind (see *Psychosurgery,* p. 229). Psychosurgery can be used beneficially to help patients who remember their deaths, feel disconnected after remorphing, or have experienced other sorts of mental traumas. This skill may also be used to interrogate, torture, or otherwise mess with captive minds in a VR environment.
Specializations: Memory Manipulation, Personality Editing, Psychotherapy

Research

Type: Active, Technical
Linked Aptitude: COG

What it is: Research is the skill for looking up information on the Mesh: searching, sifting, mining, and interpreting data. This includes knowing where to look, what links to follow, and how to optimize your queries.

When you use it: Use the Research skill whenever you need to look up the answer to a question, find databases, search archives, or track down anything online. Research is typically a Task Action with the timeframe and difficulty modifier determined by the gamemaster. See the *Online Research,* p. 249.
Specializations: Tracking, by information type

Scrounging

Type: Active, Mental
Linked Aptitude: INT

What it is: Scrounging is your ability to find things, particularly things of use or value that are concealed, buried, or hard to find. This includes knowing where to look and what to look for. Scrounging differs from both Perception and Investigation in that it is about finding items hidden among others, and in most cases about finding something in particular (food, valuables, etc.).

When you use it: Use Scrounging to dumpster-dive a meal, search ruins for relics, find bargains at a bazaar, forage berries in the forest, locate a spacesuit in an abandoned ship, etc. Scrounging is typically handled as a Task Action with a timeframe and difficulty modifier determined by the gamemaster.
Specializations: Bazaars, Forests, Habitats, Ruins

Seeker Weapons

Type: Active, Combat
Linked Aptitude: COO

What it is: Seeker Weapons covers the use and maintenance of seeker launchers (p. 339) and seeker missiles (p. 340).

When you use it: Use this skill when attacking with a seeker in ranged combat (p. 191).
Specializations: Armband, Pistol, Rifle, Underbarrel

Sense

Type: Active, Mental, Psi
Linked Aptitude: INT

What it is: Sense is the use of psi to scan egos. Only characters with the Psi trait (p. 147) may purchase this skill.

What it does: See *Psi,* p. 220.
Specializations: By sleight

Spray Weapons

Type: Active, Combat
Linked Aptitude: COO

What it is: The Spray Weapons skill covers the use and maintenance of cone-effect ranged weapons (see *Spray Weapons,* p. 340).

When you use it: A player uses their Sonic Weapons skill whenever they are attacking with a spray weapon in ranged combat (p. 191).
Specializations: Buzzer, Freezer, Shard, Shredder, Torch

Swimming

Type: Active, Physical
Linked Aptitude: SOM

What it is: Swimming is the art of moving and not drowning within fluids. It includes floating, surface swimming, snorkeling, diving, and related equipment use.

When you use it: Use Swimming whenever you need to move and survive in water or another liquid environment. Swimming in a non-threatening environment can be handled as a Simple Success Test. Swimming over a long distance could be handled as a Task Action. Diving off a cliff into a lake, preventing yourself from being swept away in a raging river current, or making sure you've set a proper gas mix for a deep-sea dive, among other things, requires a Success Test.
Specializations: Diving, Freestyle, Underwater Diving

Throwing Weapons

Type: Active, Combat
Linked Aptitude: COO

What it is: Throwing Weapons skill covers the use and maintenance of standard throwing weapons, like grenades (p. 340).

When you use it: Use Throwing Weapons skill whenever you are attacking with a throwing weapon in ranged combat (p. 191).
Specializations: Grenades, Knives, Rocks

USING KNOWLEDGE SKILLS

At first glance, it may seem that Knowledge skills have fewer in-game applications than Active skills. To some degree this is the case. The importance of Knowledge skills, however, should not be underestimated. While they play a role in analyzing clues and solving mysteries, the real value of Knowledge skills is in helping the characters—and the players—understand the world of *Eclipse Phase*. In particular these skills can be used to make plans, assess a situation, identify strengths and weaknesses, evaluate worth, make comparisons, forecast probable outcomes, or understand the applicable science, socio-economic factors, or cultural or historical context.

For example, a group of characters looking to break into a facility could use Profession: Security Procedures to evaluate the defenses, Academic: Architecture to identify covert points of entry, Interests: Sports to plan their infiltration at a time when the guards are likely to be distracted, Interests: Triads to identify a local crime group that can sell them breaking and entering gear, and Art: Sculpture when picking a valuable art piece with which to bribe an insider. When used appropriately, these skills can be just as beneficial as the Active skills used to break inside, if not more so because the plan is more likely to succeed as a result of this preparation.

It is largely up to the gamemaster to enforce how useful Knowledge skills are in their game. The easiest way to reinforce their relevance is to penalize characters who don't take advantage of them. For example, characters who didn't use their Profession: Security Procedures in the example above might end up being surprised when they run across a security system they are not prepared to deal with, forcing them to improvise or even abandon their plans. ■

UNARMED COMBAT

Type: Active, Combat
Linked Aptitude: SOM

What it is: Unarmed Combat is your ability to attack and defend without using weapons.

When you use it: Use Unarmed Combat whenever you want to attack someone with your fists, feet, elbows, knees, or other body parts in melee combat (p. 191).

Specializations: Implant Weaponry, Kick, Punch, Subdual

SPECIAL SKILLS

While the preceding list represents the skills most commonly used in *Eclipse Phase*, there may be certain skills called for in a campaign that are not found in this book. In this case, the gamemaster may work with the players to create a new skill to fill this void. This option should be used sparingly to prevent skill bloat, and all skills are subject to approval by the gamemaster

If you choose to create a new skill, keep in mind that it needs to be linked to an existing aptitude and should be a skill that is available to all characters, not just specific to one character.

7

COMBAT SUMMARY

- Combat is handled as an Opposed Test.
- Attacker rolls attack skill +/– modifiers.
- Melee: Defender rolls Fray or melee combat skill +/– modifiers.
- Ranged: Defender rolls (Fray skill ÷ 2, round down) +/– modifiers.
- If attacker succeeds and rolls higher than the target, the attack hits.
- Critical hits are armor-defeating.
- An Excellent Success increases the damage by +5 (MoS 30+) or +10 (MoS 60+).
- Armor is reduced by the attack's Armor Penetration value (AP).
- The weapon's damage is reduced by the target's modified Armor rating (unless the attack is armor-defeating).
- If damage exceeds Wound Threshold, a wound is also scored. (Multiple wounds apply if the damage exceeds Wound Threshold by multiple factors.)

ACTION AND COMBAT

ACTION TURNS AND INITIATIVE

During combat, the game moves in small chunks of time called Action Turns. The character with the highest Initiative will act first within those Action Turns. ■ **p. 188**

ACTIONS

During any given Action Turn, there are 4 different types of Actions that may be taken. ■ **p. 189**

Automatic Actions: These abilities and effects require no effort and are "always on." ■ **p. 190**

Quick Actions: These fast and simple actions take minimal effort. You can always take 1 Quick Action in an Action Phase, and if you take only Quick Actions, you may take 3 or more. ■ **p. 190**

Complex Actions: These actions monopolize your attention. You can take 1 Complex Action in an Action Phase. ■ **p. 190**

Task Actions: These long-term activities take more than one Action Turn to complete; anywhere from 2 turns to 2 years! ■ **p. 190**

COMBAT EXAMPLE & SUMMARY

The combat rules start on p. 191 and are quickly followed by an example of play and a combat summary. ■ **pp. 191–193**

HEALING AND REPAIR

You're going to get hurt. Biological morphs can be healed and synthmorphs mechanically repaired. ■ **pp. 208–209**

Mental Health: Trauma to your ego can be crippling—you can't swap out your ego for a new one like you can a morph. ■ **p. 209**

HOSTILE ENVIRONMENTS

The solar system is full of natural dangers that will test even the most well-prepared explorer. ■ **p. 200**

ACTION AND COMBAT

Roleplaying games are about creating drama and adventure, and that usually means action and combat. Action and combat scenes are the moments when the adrenaline really gets pumping and the characters' lives and missions are on the line.

Combat and action scenarios can be confusing to run, especially if the gamemaster also needs to keep track of the actions of numerous NPCs. For these reasons, it's important for the gamemaster to detail the action in a way that everyone can visualize, whether that means using a map and miniatures, software, a dry-erase board, or quick sketches on a piece of paper. Though many of the rules for handling action and combat are abstract—allowing room for interpretation and fudging results to fit the story—many tactical factors are also incorporated, so even small details can make a large difference. It also helps to have the capabilities of NPCs predetermined and to run them as a group when possible, to reduce the gamemaster's burden in the middle of a hectic situation.

ACTION TURNS

Action scenes in *Eclipse Phase* are handled in bite-size chunks called Action Turns, each approximately 3 seconds in length. We say "approximately" because the methodical, step-by-step system used to resolve actions does not necessarily always translate realistically to real life, where people often pause, take breaks to assess the situation, take a breather, and so on. A combat that begins and ends within 5 Action Turns (15 seconds) in *Eclipse Phase* could last half a minute to several minutes in real life. On the other hand, the characters may be in a situation where their breathing environment decompresses to vacuum in 15 seconds, so every second may in fact count. As a rule, gamemasters should stick with 3 seconds per turn, but they shouldn't be afraid to fudge the timing either when a situation calls for it.

Action Turns are meant to be utilized for combat and other situations where timing and the order in which people act is important. If it is not necessary to keep track of who's doing what so minutely, you can drop out of Action Turns and return to "regular" free form game time.

Each Action Turn is in turn broken down into distinct stages, described below.

STEP 1: ROLL INITIATIVE

At the beginning of every Action Turn, each PLAYER involved in the scene rolls Initiative to determine the order in which each character acts. For more details, see *Initiative*.

STEP 2: BEGIN FIRST ACTION PHASE

Once Initiative is rolled, the first *Action Phase* begins. Everyone gets to act in the first Action Phase (since everyone has a minimum Speed of 1), unless they happen to be unconscious/dead/disabled, starting with the character with the highest successful Initiative roll.

STEP 3: DECLARE AND RESOLVE ACTIONS

The character going first now declares and resolves the actions they will take during this first Action Phase. Since some actions the character makes may depend on the outcome of others, there is no need to declare them all first—they may be announced and handled one at a time.

As described under *Actions* (p. 189), each character may perform a varying number of Quick Actions and/or a single Complex Action during their turn. Alternately, a character may begin or continue with a Task Action, or delay their action pending other developments (see *Delayed Actions,* p. 189).

A character who has delayed their action may interrupt another character at any point during this stage. That interrupting character must complete this stage in full, then the action returns to the interrupted character to finish the rest of their stage.

STEP 4: ROTATE AND REPEAT

Once the character has resolved their actions for that phase, the next character in the Initiative order gets to go, running through Step 3 for themselves.

If every character has completed their actions for that phase, return to Step 2 and go the second Action Phase. Every character with a Speed of 2 or more gets to go through Step 3 again, in the same Initiative order (modified by wound modifiers). Once the second Action Phase is completed, return to Step 2 for the 3rd Action Phase, where every character with a Speed of 3 or more gets to go for a third time. Finally, after everyone eligible to go in the 3rd Action Phase has gone, return to Step 2 for a fourth and last Action Phase, where every character with a Speed of 4 can act for one final time.

At the end of the fourth Action Phase, return to Step 1 and roll Initiative again for the next Action Turn.

INITIATIVE

Timing in an Action Turn can be critical—it may mean life or death for a character who needs to get behind cover before an opponent draws and fires their gun. The process of rolling Initiative determines if a character acts before or after another character.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Initiative Order

A character's Initiative stat is equal to their Intuition + Reflexes aptitudes multiplied by 2. This score may be further modified by morph type, implants, drugs, psi, or wounds.

In the first step of each Action Turn, every character makes an Initiative Test, rolling d100 and adding their Initiative stat. Whoever rolls highest goes first, followed by the other characters in descending order, highest to lowest. In the event of a tie, characters go simultaneously.

EXAMPLE

Adam, Bob, and Cami are rolling Initiative. Adam's Initiative stat is 80, Bob's is 110, and Cami's is 60. Adam rolls a 38, Bob rolls a 24, and Cami rolls a 76. Adam's total Initiative score is 118 (80 + 38), Bob's is 134 (110 + 24), and Cami's is 136 (60 + 76). Cami rolled highest, so she goes first, followed by Bob and then Adam. If Cami & Bob had tied, they would both go at the same time.

Initiative and Damage

Characters who are suffering from wounds have their Initiative score temporarily reduced (see *Wounds*, p. 207). This modifier is applied immediately when the wound is taken, which means that it may modify an Initiative score in the middle of an Action Turn. If a character is wounded before they go in that Action Phase, their Initiative is reduced accordingly, which may mean they now go after someone they were previously ahead of in the Initiative order.

EXAMPLE

Before Bob's Action Phase comes up, Bob takes two wounds, knocking his Initiative down from 134 to 114. This means that Adam, with an Initiative of 118, now goes before him.

Initiative, Moxie, and Criticals

A character may spend a point of Moxie to go first in an Action Phase, regardless of their Initiative roll (see *Moxie*, p. 122). If more than one character chooses this option, then order is determined as normal first among those who spent Moxie, followed by those who didn't.

Similarly, any character that rolls a critical on Initiative automatically goes first, even before someone who spent Moxie. If more that two characters rolled criticals, determine order between them as normal.

Speed

Speed determines how many times a character can act during an Action turn. Every character starts with a default Speed stat of 1, meaning they can act in the first Action Phase of the turn only. Certain morphs, implants, drugs, psi, and other factors may cumulatively increase their Speed to 2, 3, or even 4 (the maximum), allowing them to act in further Action Phases as well. For example, a character with Speed 2 can act in the first and second Action Phases, and a character with Speed 3 can act in the first through third Action Phases. A character with Speed 4 is able to act in every Action Phase. This represents the character's enhanced reflexes and neurology, allowing them to think and act much faster than non-enhanced characters.

If a character's Speed does not allow them to act during an Action Phase, they can initiate no actions during the pass—they must simply bide their time. The character may still defend themself, however, and any automatic actions remain "on." Note that any movement the character initiated is considered to still be underway even during the Action Phases they do not participate in (see *Movement*, p. 190).

SIMPLIFYING INITIATIVE

For speedier resolution, simply have characters roll Initiative once for an entire scene. That Initiative result stays with them on each Action Turn until the combat or scenario is over. Likewise, ignore Initiative modifiers from wounds. ■

Delayed Actions

When it's your turn to go during an Action Phase, you may decide that you're not ready to act yet. You may be awaiting the outcome of another character's actions, hoping to interrupt someone else's action, or may simply be undecided about what to do yet. In this case, you may opt to *delay your action*.

When you delay your action, you're putting yourself on standby. At some later point in that Action Phase, you can announce that you are now taking your action—even if you interrupt another character's action. In this case, all other activity is put on hold until your action is resolved. Once your action has taken place, the Initiative order continues on where you interrupted.

You may delay your action into the next Action Phase, or even the next Action Turn, but if you do not take it by the time your next action comes around in the Initiative order, then you lose it. Additionally, if you do delay your action into another phase or turn, then once you take it you lose any action you might have in that Action Phase.

Actions

When it's your turn to act during an Action Phase, you have many options for what you can do—far too many to list here. There is a limit to what you can accomplish in 3 seconds, however, so some limitations must be adhered to. The first step is to figure

out what type of action you want to take. In *Eclipse Phase,* actions are categorized as Automatic, Quick, Complex, or Task, based on how much time and effort they entail.

Automatic Actions

Automatic Actions require no effort. These are abilities or activities that are "always on" (assuming you are conscious) or are otherwise reflexive (they happen automatically in response to certain conditions, with no effort from you). Breathing, for example, is an automatic action—your body does it without conscious effort or thinking on your part.

In most cases, Automatic Actions are not something that you initiate—they are always active, or at least on standby. Certain circumstances, however, will bring an Automatic Action to bear. Such Automatic Actions are invoked and handled immediately whenever they apply, without requiring effort from your character.

Resistance

Resisting damage—whether from combat, a poison, or a psi attack—is one example of an Automatic Action that occurs in response to something else.

Basic Perception

Your senses are continuously active, accumulating data on the world around you. Basic perception is considered an Automatic Action, and so the gamemaster can call on you to make a Perception Test whenever you receive sensory input that your brain might want to take notice of (see *Perception,* p. 182). Likewise, you may ask the gamemaster at any time—even during other character's actions—to make a basic Perception Test, just to find out what your character is noticing around them.

Because basic perception is an automatic, subconscious activity, however, you will suffer a –20 modifier for distraction—your attention is focused elsewhere. In order to avoid the distraction modifier, you must actively engage in detailed perception or use an oracle implant (p. 308).

Quick Actions

Quick Actions are fast and simple, and they may often be multi-tasked. They require minimal thought and effort. You may undertake multiple Quick Actions on your turn during each Action Phase, limited only by the gamemaster's judgment. If you are taking nothing but Quick Actions during an Action Phase, you should be allowed a minimum of 3 separate Quick Actions. If you are also engaging in a Complex or Task Action during that same Action Phase, you should be allowed a minimum of 1 Quick Action. Ultimately, the gamemaster decides what activity you can or can't fit into a single Action Phase.

Some examples of Quick Actions include: talking, switching a safety, activating an implant, standing up, dropping prone, gesturing, drawing/readying a weapon, handling an object, or using a simple object.

Aiming

Aiming is a special case in that it is a Quick Action but requires a degree of concentration that rules out other minor actions. If you wish to aim before making an attack in the same Action Phase, aiming is the only Quick Action you may make during that Action Phase (see *Aimed Shots,* p. 193).

Detailed Perception

Detailed perception involves taking a moment to actively use your senses in search of information and assess what you are perceiving (see *Perception,* p. 182). It requires slightly more effort and brainpower (or computer power) than basic perception, which is automatic. As a Quick Action, you may only engage in detailed perception on your turn during an Action Phase, but you do not suffer a modifier for distraction (unless you happen to be in a heavily distracting environment, such as a gunfight or agitated crowd).

Complex Actions

Complex Actions require more concentration and effort than Quick Actions—they effectively monopolize your attention. You may only take one Complex Action on each your Action Phase turns. Additionally, you may not engage in a Complex Action and a Task Action during the same Action Phase.

Examples of Complex Actions include: attacking, shooting, acrobatics, full defense, disarming a bomb, using a complex device, or reloading a weapon.

Task Actions

A Task Action is any activity that requires longer than one Action Turn to complete. Each Task Action lists a timeframe for how long the task takes to accomplish. This timeframe may range anywhere from 2 Action Turns to 2 years. While engaged in a Task Action, you may not also undertake a Complex Action, though in some cases you may take a break from the task and return to it later. For more information, see *Task Actions,* p. 120.

Examples of Task Actions include: repairing a device, programming, conducting a scientific analysis, searching a room, climbing a wall, or cooking a meal.

Movement

Movement in *Eclipse Phase* is handled just like any other action, and may change from Action Phase to Action Phase. Walking and running both count as Quick Actions, as they do not require your full concentration. The same also applies to slithering, crawling, floating, hovering, or gliding. Running, however, may inflict a –10 modifier on other actions that are affected by your jostling movement. Even more, sprinting is an all-out run, and so requires a Complex Action (see *Sprinting,* p. 191).

At the gamemasters discretion, other movement may also call for a Complex Action. Hurdling a fence, pole vaulting, jumping from a height, swimming, or freerunning through a habitat in zero-gravity all require a bit of finesse and attention to detail, so would

count as a Complex Action, and would apply the same modifier as running. Flying generally counts as a Quick Action, though intricate maneuvers would call for a Complex Action.

Movement Rates

Sometimes it's important to know not just how you're moving, but how far. For most of transhumanity, this movement rate is the same: 4 meters per Action Turn walking, 20 meters per turn running. To determine how far a character can move in a particular Action Phase, divide this movement rate by the total number of Action Phases in that turn. In a turn with 4 Action Phases, that breaks down to 1 meter walking per Action Phase, 5 meters running.

Movement such as swimming or crawling benchmarks at about 1 meter per Action Turn, or 0.25 meters per Action Phase. You can also sprint to increase your movement rate (see *Sprinting*). Vehicles, robots, creatures, and unusual morphs will have individual movement rates listed in the format of walking rate/running rate in meters per turn.

These movement rates assume standard Earth gravity of course. If you're moving in a low-gravity, microgravity, or high-gravity environment, things change. See *Gravity,* p. 198.

Jumping

Characters making a running jump can cross SOM ÷ 5 (round up) meters; use SOM ÷ 20 (round up) meters for standing jumps. Vertical jumping height is 1 meter. Characters making a Freerunning Test can increase jumping distance by 1 meter (running jump) or 0.25 meters (standing/vertical jumps) per 10 points of MoS.

Sprinting

You may use Freerunning to increase the distance you move during an Action Phase. You must spend a Complex Action to sprint and make a Freerunning Test. Every 10 points of MoS increases your running distance in that Action Phase by 1 meter, to a maximum bonus of +5 meters.

Combat

Sometimes words fail, and that's when the knives and shredders come out. All combat in *Eclipse Phase* is conducted using the same basic mechanics, whether it's conducted with claws, fists, weapons, guns, or psi: an Opposed Test between the attacker and defender(s).

Resolving Combat

Use the following sequence of steps to determine the outcome of an attack.

Step 1: Declare Attack

The attacker initiates by taking a Complex Action to attack on their turn during an Action Phase. The skill employed depends on the method used to attack. If the character lacks the appropriate Combat skill, they must default to the appropriate linked aptitude.

Step 2: Declare Defense

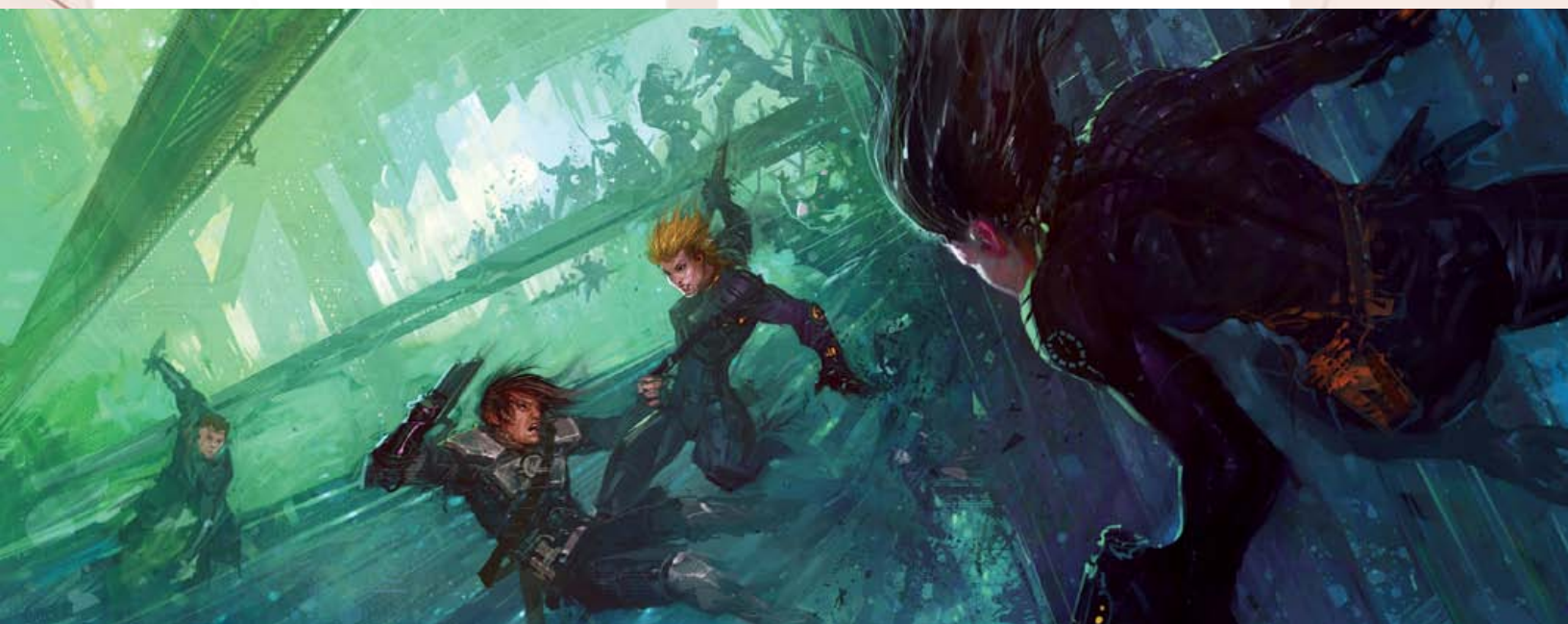
Once the attack is declared, the defender chooses how to respond. Defense is always considered an Automatic Action unless the defender is surprised (see *Surprise,* p. 204) or somehow incapacitated and incapable of defending themself.

Melee: A character defending against melee attacks uses Fray skill, representing dodging (if the character lacks this skill, they may default to Reflexes). Alternately, the character may use a melee combat skill to defend, representing blocks and parries rather than dodging.

Ranged: Against ranged attacks, a defending character may only use half their Fray skill (round down).

Full Defense: Characters who have taken a Complex Action to go on full defense (p. 198) receive a +30 modifier to their defensive roll.

Psi: A character defending against a psi attack rolls WIL x 2 (p. 222). A mental sort of full defense may also be rallied against psi attacks.



STEP 3: APPLY MODIFIERS

Any appropriate modifiers are now applied to the attacker and defender's skills. See the Combat Modifiers table (p. 193) for common situational modifiers.

STEP 4: MAKE THE OPPOSED TEST

The attacker and defender both roll d100 and compare the results to their modified skill target numbers.

STEP 5: DETERMINE OUTCOME

If the attacker succeeds and the defender fails, the attack hits. If the defender succeeds but the attacker fails, the attack misses completely.

If both attacker and defender succeed in their tests, compare their dice rolls. If the attacker's dice roll is higher, the attack hits despite a spirited defense; otherwise, the attack fails to connect.

Excellent Success: If the attacker rolled an Excellent Success (MoS of 30+), a solid hit is struck. Increase the Damage Value (DV) inflicted by +5. If the MoS is 60+, increase the DV by +10.

Criticals: If the attacker rolls a critical success, the attack is armor-defeating, meaning that the defender's armor is bypassed completely—some kink or flaw was exploited, allowing the attack to get through completely.

If the defender rolls a critical success, the attacker's weapon breaks, jams, gets stuck somewhere, or otherwise malfunctions or gets dropped.

STEP 6: MODIFY ARMOR

If the target is hit, their armor will help to protect them against the attack (unless the attacker rolled a critical, see above). Determine which type of armor is appropriate to defending against that particular attack (see *Armor*, p. 194). The attack's Armor Penetration (AP) value reduces the armor's rating, however, representing the weapon's ability to pierce through protective measures.

STEP 7: DETERMINE DAMAGE

Every weapon and type of attack has a Damage Value (DV, see p. 207). This amount is reduced by the target's AP-modified armor rating. If the damage is reduced to 0 or less, the armor is effective and the attack fails to injure the target. Otherwise, any remaining damage is applied to the defender. If the accumulated damage exceeds the defender's Durability, they are incapacitated and may die (see *Durability and Health*, p. 207).

Note that some psi attacks inflict mental stress rather than physical damage (see *Mental Health*, p. 209). In this case, the Stress Value (SV) is handled the same as DV.

STEP 8: DETERMINE WOUNDS

The damage inflicted from a single attack is then compared to the victim's Wound Threshold. If the armor-modified DV equals or exceeds the Wound Threshold, the character suffers a *wound*. Multiple wounds may be applied with a single attack if the modified DV is two or more factors beyond the Wound Threshold. Wounds represent more serious injuries and apply modifiers and other effects to the character (see *Wounds*, p. 207).

EXAMPLE

Stoya tried to get off the station quickly, but the Night Cartel's assassin caught up, surprising her in a microgravity part of the habitat. The assassin's INIT is 63, plus a dice roll of 23, for an Initiative of 86. Stoya's INIT is 55, plus a roll of 27, for an Initiative of 82.

The assassin goes first, spending a Quick Action to draw a shredder. This flechette weapon is in burst-fire mode, so with a Complex Action the assassin can take two shots. His Spray Weapons skill is 65, he's smartlinked (+10), and they're at short range (+0), so he needs a 75 or less. Stoya is defending with her Fray skill (60) divided by 2, or 30.

The assassin rolls an 08 with the first shot. Amazingly, Stoya rolls a 28. They both succeeded, but Stoya rolled higher, so she dodges the first shot.

The assassin rolls a 20 for his second shot, another hit, and this time Stoya rolls an 83, a failure. The assassin also scored an Excellent Success with a MoS of 55, increasing the DV by +5.

The assassin's base damage is 2d10 + 5, but he's using burst fire against a single target for +1d10, and it's also a cone effect weapon at short range, for an additional +1d10, for a total DV of 4d10 + 5. The assassin rolls 4d10 and gets 16, then adds the +5 for a total DV of 21.

Stoya's wearing light body armor (AV 10/10), but the shredder's Armor penetration is –10, so her armor is entirely negated. She takes a devastating 21 DV, exceeding her Wound Threshold of 10, not just once, but twice. This means Stoya suffers 2 wounds from the shot, suffering –20 to all actions. In addition, she must make two SOM x 3 Tests, one to avoid knockdown and the other to avoid unconsciousness. Her SOM is 30, meaning she needs a 70 (30 x 3 = 90, 90 – 20 wound modifiers = 70) on both rolls. She rolls a 40 and a 27, succeeding both.

Now it's Stoya's action. She takes a Quick Action to pull her own weapon: a stunner. Her Beam Weapons skill is 47, modified by wounds (–20) and a smartlink (+10), for 37. The assassin's Fray is 48, divided by 2 for 24 against a ranged attack. Stoya rolls a 22—a critical hit—and the assassin rolls a 68. The stunner only inflicts 1d10 ÷ 2 DV, but since the attack is a critical hit, this is armor defeating. Stoya rolls an 8, for 4 points of DV, below the assassin's Wound Threshold of 7.

Stunners, however, are shock weapons, so the assassin must make a DUR + Energy Armor Test. His DUR is 35 and he's wearing an armor vest (AV 6/6), so his target number is 41. He rolls a 71—a Margin of Failure of 30, meaning he is immediately incapacitated for 3 Action Turns.

Having disabled her opponent, Stoya takes the time to make a hasty getaway.

Combat Summary

- **Combat is handled as an Opposed Test.**
- **Attacker rolls attack skill +/– modifiers.**
- **Melee: Defender rolls Fray or melee skill +/– modifiers.**
- **Ranged: Defender rolls (Fray skill ÷ 2, round down) +/– modifiers.**
- **If attacker succeeds and rolls higher than the defender, the attack hits.**
- **Critical hits are armor-defeating (armor does not apply).**
- **Armor is reduced by the attack's Armor Penetration value (AP).**
- **The weapon's damage is reduced by the target's modified Armor rating (unless the attack is armor-defeating).**
- **If the damage exceeds the target's Wound Threshold, a wound is also scored. (If the damage exceeds the Wound Threshold by multiple factors, multiple wounds are inflicted.)**

Action and Combat Complications

Combat isn't quite as simple as deciding if you hit or miss. Weapons, armor, ammunition, and numerous other factors may impact an attack's outcome. Likewise, various factors can impact an action scene, such as fire or microgravity effects.

Aimed Shots

As noted under *Aiming*, p. 190, a character can sacrifice their other Quick Actions to concentrate on targeting a ranged attack and receive a +10 modifier on the attack. You can also sacrifice an entire Complex Action to fix your aim on a target. In this case, as long as the target remains in your sights until your next Action Phase, you receive a +30 modifier to hit.

Ammunition and Reloading

Every weapon has a listed ammunition capacity that indicates how many shots the weapon can carry or holds. When this ammo runs out, a new supply must be loaded in. Players should keep track of the shots they fire.

Reloading almost always requires a Complex Action, whether you are slapping in a new clip of bullets or a fresh battery for a laser. At the gamemaster's discretion, a reload that is immediately accessible (such as a new clip reverse-taped to the loaded clip, so that reloading just requires that you reverse the taped clips and slot the new one in) will only take a Quick Action. Archaic weapons such as magazine-fed rifles may require longer to fully load.

Area Effect Weapons

Some ranged attack weapons are designed to affect more than one target at a time. These weapons fall into three categories: blast, uniform blast, and cone.

Combat Modifiers

General	Modifier
Character using off-hand	–20
Character wounded/traumatized	–10 per wound/trauma
Character has superior position	+20
Touch-only attack	+20
Called shot	–10
Character wielding two-handed weapon with one hand	–20
Small target (child-sized)	–10
Very small target (mouse or insect)	–30
Large target (car sized)	+10
Very large target (side of a barn)	+30
Visibility impaired (minor: glare, light smoke, dim light)	–10
Visibility impaired (major: heavy smoke, dark)	–20
Blind attack	–30

Melee Combat	Modifier
Character has reach advantage	+10
Character charging or receiving a charge	+20

Ranged Combat (Attacker)	Modifier
Attacker using smartlink or laser sight	+10
Attacker behind cover	–10
Attacker running	–20
Attacker in melee combat	–30
Attacker has reach advantage	+10
Defender has minor cover	–10
Defender has moderate cover	–20
Defender has major cover	–30
Defender prone and far (10+ meters)	–10
Defender hidden	–60
Aimed shot (quick)	+10
Aimed shot (complex)	+30
Sweeping fire with beam weapon	+10 on second shot
Multiple targets in same Action Phase	–20 per additional target
Indirect fire	–30
Point-blank range (2 meters or less)	+10
Short range	—
Medium range	–10
Long range	–20
Extreme range	–30

Blast Effect

Blast weapons include items like grenades, mines, and other explosives that expand outward from a central detonation point. Most blast attacks expand outward in a sphere, though certain shaped charges may direct an explosion in one direction only. The explosive force is stronger near the epicenter and weaker near the outer edges of the sphere. For every meter a target is from the center, reduce the damage of a blast weapon by –2.

Uniform Blast

Uniform blast attacks distribute their power evenly throughout the area of effect. Examples include fuel-air explosives and thermobaric weapons that disperse an explosive mixture in a vapor cloud and ignite it all at once. All targets within the noted blast radius suffer the same damage. Damage against targets outside of the main blast sphere is reduced by –2 per meter.

Cone

Weapons with a cone effect have an area effect that begins with the tip of the weapon and expands outward in a cone. At short range, this attack effects 1 target; at medium range it affects 2 targets within a meter of each other; and at long or extreme range it affects 3 targets within a meter of the next. Cone effect attacks do +1d10 damage at short range and –1d10 damage at long and extreme range.

Armor

Just as weapons technologies have advanced, so too has armor quality, allowing unprecedented levels of protection. As noted in *Step 7: Determine Damage* (see p. 192), the armor rating reduces the damage points of the attack.

For a full listing of armor types and values, see p. 311.

Energy vs. Kinetic

Each type of armor has an Armor value (AV) with two ratings—Energy and Kinetic—representing the protection it applies against the respective type of attack. These are listed in the format of "Energy armor/Kinetic armor." For example, an item with listed armor "5/10" provides 5 points of armor against energy-based attacks and 10 points of armor against kinetic attacks.

Energy damage includes that caused by beam weapons (laser, microwave, particle beam, plasma, etc.) as well as fire and high-energy explosives. Armor that protects against this damage is made of material that reflects or diffuses such energy, dissipates and transfers heat, or ablates.

Kinetic damage is the transfer of damaging energy when an object in motion (a fist, knife, club, or bullet, for example) impacts with another object (the target). Most melee and firearms attacks inflict kinetic damage, as would a rolling boulder, swinging pendulum, or explosion-driven fragments. Kinetic armors include impact-resistant plates, shear-thickening liquid and gels that harden upon impact, and ballistic and cut-proof fiber weaves.

Armor Penetration

Some weapons have an Armor Penetration (AP) rating. This represents the attack's ability to pierce through protective layers. The AP rating reduces the value of armor used to defend against the attack (see *Step 6: Modify Armor,* p. 192).

Layered Armor

If two or more types of armor are worn, the armor ratings are added together. However, wearing multiple armor units is cumbersome and annoying. Apply a –20 modifier to a character's actions for each additional armor layer worn

Note that items specifically noted as *armor accessories*—helmets, shields, etc.—do not inflict the layered armor penalty, they simply add their armor bonus. Note also that the armor inherent to a synthetic morph or bot's frame does not constitute a layer of armor (i.e., you may wear armor over the synthetic shell without penalty).

Asphyxiation

The average transhuman can hold their breath for two minutes before blacking out. Strenuous activity reduces the amount of time. For every 30 seconds after the first minute a biomorph is prevented from breathing, they must make a DUR Test. Apply a cumulative –10 modifier each time this test is rolled. If the character fails the test, they immediately fall unconscious and begin to suffer damage from asphyxiation, at the rate of 10 points per minute, until they die or are allowed to breathe again. This damage does not cause wounds.

Asphyxiating is a terrible process, often leading to panic. Characters who are being asphyxiated must make a WIL x 3 Test. If they fail, they suffer 1d10 ÷ 2 (round up) mental stress and cannot perform any effective action to rescue themselves that Action turn. A character who succeeds may attempt to rescue themselves, and in fact they must make a WIL x 3 Test to perform any other action not directly related to rescuing themselves (attacks against another character, a creature, or an object holding the character underwater are exempt from this rule).

Beam Weapons

Due to emitting a continuous beam of energy rather than single projectiles, beam weapons are easier to "home in" on a target. This means one of the following two rules may be used when making beam weapon attacks. These options are not available for "pulse" beam weapons (like the laser pulser), as such weapons emit energy in pulses rather than a continuous beam.

Sweeping Fire

An attacker who is making two semi-auto (p. 198) attacks with a beam weapon with the same Complex Action and who misses with the first attack may treat that attack as a free Aim action (p. 190), receiving a +10 modifier for the second attack. In other words, though the first attack misses, the character takes the opportunity to sweep the beam closer to the target for the second attack. This only applies when both attacks are made against the same target.

Concentrated Fire

A character firing a semi-auto beam weapon who hits with the first attack may choose to keep the beam on and concentrate their fire, cooking the target. In this case, the character foregos their second semi-auto attack with that Complex Action, but automatically bolsters the DV of the first attack by x 1.5 (round up). This decision must be made *before* the damage dice are rolled.

Blind Attacks

Attacking a target that you cannot see is difficult at best and a matter of luck at worst. If you cannot see, you may make a Perception Test using some other available sense to detect your target. If this succeeds, you attack with a –30 modifier. If your Perception Test fails, your attack is primarily based on chance—your target number for the attack test is equal to your Moxie stat (no other modifiers apply).

Indirect Fire

With the help of a spotter, you may target an enemy that you can't see using indirect fire. In this case you must be meshed with a character, bot, or sensor system that has the target in its sights and which feeds you targeting data (the gamemaster may require a Perception Test from the spotter). Indirect attacks suffer a –30 modifier.

Seeker missiles (p. 340) can home in on a target that is "painted" with reflected energy from a laser sight (p. 342) or similar target designator system. An "attack" must first be made to paint the target with the laser sight using an appropriate skill. If this succeeds, it negates the –30 indirect fire modifier for the seeker launcher's attack test. the target must be held in the spotter's sights (requiring a Complex Action each Action Phase) until the seeker strikes.

Bots, Synthmorphs, and Vehicles

AI-operated robots and synthetic morphs are a common sight in *Eclipse Phase*. Robots are used for a wide range of purposes, from surveillance, maintenance, and service jobs to security and policing—and so may often play a role in action and combat scenes. Though less common (at least in habitats), AI-piloted vehicles are also frequently used and encountered.

Note that the difference between a robot, vehicle, and synthetic morph is in many ways semantic. Robots are simply synthetic bodies controlled by an AI. Vehicles are also robotic—AI controlled—but the term "vehicle" is used to denote that they carry passengers. Both bots and vehicles can be used as synthetic morphs—that is, inhabited by a transhuman ego—assuming they are equipped with a cyberbrain (p. 300). For the purpose of these rules, the term "shell" is used to refer to bots, vehicles, and synthetic morphs alike.

Like synthmorphs, bots and vehicles are treated just like any other character: they roll Initiative, take actions, and use skills. A few specific aspects of these shells needs special consideration, however, covered below.

Shell Stats

Just like synthmorph characters, certain bot and vehicle stats (Durability, Wound Threshold, etc.) and stat modifiers (Initiative, Speed, etc.) are determined by the actual physical shell. Other stats are determined by the bot/vehicle's operating AI (in place of an ego). Bots and vehicles may also have traits that apply to their AI or physical shell. For sample bots and vehicles, see p. 342 of the *Gear* chapter.

Handling: Bots and vehicles have a special stat called Handling, which is a modifier applied to all tests made to pilot the bot/vehicle. This represents the bot/vehicle's maneuverability.

Shell Skills

The skills and aptitudes used by a bot or vehicle are those possessed by its AI. See *AIs and Muses,* p. 264.

Shell Movement

Like characters, bots and vehicles have a walking and running Movement rate. This is used whenever the bot/vehicle is engaged in action or combat scenes with other characters.

Shells that are capable of greater speeds will also have a Maximum Velocity listed—this is the highest rate at which the shell may safely move, listed in kilometers per hour. At the gamemaster's discretion, some shells may push their limits and accelerate further, but at significant risk—the gamemaster should apply appropriate penalties to Pilot Tests and other tests.

Chases

Shells that are moving faster than their running Movement rate (up to their Max. Velocity) are generally considered to be

moving too fast for standard action and combat interaction with other characters. This is when the action enters "chase scene" mode—a traveling narrative of maneuvering choices and tests with various outcomes. Whether or not a chase is actually occurring, the gamemaster should remember that Max Velocity is not the only factor in high-speed situations. Environmental factors like terrain, weather conditions, navigation, pedestrians, and traffic can provide obstacles for shells to overcome. A shell tearing across a habitat in order to reach a bomb before it detonates should have to make several decisions and tests that may affect whether it gets there in time or not. Likewise, a shell seeking to shake off some hot pursuit will have to pull off some fancy maneuvering and hopefully find a shortcut or two in order to outrace their opponents.

Crashing

Shells that suffer wounds during combat or chases may be force to make a Pilot Test to avoid crashing or may crash automatically. The exact circumstances of a crash are left up to the gamemaster, as best fits the story—the shell may simply skid to a stop, plow into a tree, fall from the sky, or flip over and land on a group of bystanders. Shells that strike other objects when they crash typically take further damage from the collision (see *Collisions*).

Collisions

If a shell crashes into or intentionally rams a person or object, someone is likely to get hurt. To determine how much DV is inflicted, roll 1d10 and add the shell's DUR divided by 10 (round up). This is the damage applied at walking speeds. If the shell was moving at running speeds, multiply the DV by 2. If the shell was moving at chase speeds, multiply the DV by the shell's velocity ÷ 10 in meters per turn. Both the shell and whatever it strikes suffer this damage, assuming the collision is with something equal dense and hard. Soft and squishy objects like biomorphs will be less damaging to a shell (unless they happen to be in a hardsuit or battlesuit), in which case the shell will only suffer half damage from the collision. Kinetic armor defends against crash DV.

If two moving shells collide head-on, calculate the damage from both and inflict to both. If two shells moving in the same direction collide, only count the difference in velocity.

Passengers in a vehicle may also be damaged by collisions if they are not wearing proper safety restraints. They suffer one half the DV applied to their vehicle.

COLLISION DAMAGE
Base Collision DV: 1d10 + (DUR ÷ 10)
Running: DV x 2
Chase Speeds: DV x (velocity ÷ 10)

Attacking Vehicle Passengers

During combat, passengers within a vehicle may be targeted separately from the vehicle itself. Attacks made against passengers this way do not harm the vehicle itself (unless an area effect weapon is used). Targeted passengers benefit both from cover (usually Major, –30) and from the vehicle's structure, adding the vehicle's Armor Value to their own.

Passengers within a vehicle are generally not harmed by attacks made against the vehicle itself. Exceptions include area effect weapons and vehicle crashes. In both these cases, the passengers also benefit from the vehicle Armor Value.

Shell Remote Control

Any shell (or biomorph) with a puppet sock (also included with all cyberbrains) may be remote controlled, either by a character or a remote AI. This requires a communications link between the teleoperator and the shell (the "drone"). The teleoperator controls the drone via an entoptic interface, and receives sensory input and other data via the drone's mesh inserts.

When under *direct control,* the shell's AI (or resident ego) is subsumed and put on standby. The drone only acts as instructed. Each instruction counts as a Quick Action. In this situation, the drone acts with the same Initiative as the teleoperator. The teleoperator's skills and stats are used in place of the shell AI's. Due to the nature of remote operation, however, all tests are made with a –10 modifier. Multiple drones may be controlled at once, but commanding them requires separate Quick Actions unless they are receiving the same command. Direct control teleoperation is not very feasible at extreme distances, due to the light-speed lag with communications.

Alternately, the teleoperator can put the drone in *autonomous mode,* allowing the shell's AI to resume normal operations. The drone still follows the teleoperator's commands to the best of its abilities. In this mode, the drone functions normally, using its own Initiative and AI skills and stats.

Shell Jamming

"Jamming" is the colloquial term for a more direct form of remote-control, using VR and XP technology. When jamming, the drone's puppet sock feeds the drone's sensory data directly to the teleoperator's mesh inserts. The teleoperator subsumes themself in the drone's sensorium, essentially "becoming" the drone. In this case, the teleoperator surrenders control of their own morph, which slumps inertly. While jamming, they suffer –60 on all Perception Tests or attempts to take action with their morph.

Jamming takes a Complex Action to engage and disengage. A jamming teleoperator controls a drone as if it were their own morph. Like direct control teleoperation, the jammer's own skills and Initiative are used in place of the drone's AI. Jammers do not suffer any teleoperation modifiers, but only one drone may be jammed at a time.

If the drone is killed or destroyed, the jammer is immediately dumped from their connection, resuming control of their own morph as normal. Getting dumped in this manner is extremely jarring, not the least because the jammer experienced being killed/destroyed. As a result, the jammer suffers 1d10 mental stress.

Called Shots

Sometimes it's not enough to just hit your target—you need to shoot out a window, knock the knife out of their hand, or hit that hole in their armor. You may declare that you are making a called shot before you initiate an attack, choosing one of the outcomes noted below. Called shots suffer a –10 modifier and require an Excellent Success (MoS 30+). If you beat that margin, you succeed with the called shot, and the results noted below apply. If you don't beat the margin but still succeed in the attack, you simply strike your target as normal.

Bypassing Armor

Called shots may be used to target a hole or weak point in your opponent's armor. If you beat the MoS, you strike an armor-defeating hit, and their armor does not apply. Note that in certain circumstances, a gamemaster may rule that an opponent's armor simply doesn't have a weak spot or unprotected area, and so disallow such called shots.

Disarming

You may take a called shot to attempt to knock a weapon out of an opponent's hand(s). If you beat the MoS, the victim suffers half damage from the attack (reduced by armor as normal) and must make a SOM x 3 Test with a –30 modifier to retain hold of the weapon.

Specific Targeting

You may make a called shot with the intention of hitting a specific location or component on your target—for example: disabling the sensor unit on a bot, sweeping someone's leg, or poking someone in the eye. If you beat the MoS, you hit the specific targeted spot. The gamemaster determines the result as appropriate to the attack and target—the component may be destroyed, the opponent may fall or be temporarily blinded, and so on.

Charging

An opponent who runs and attacks an opponent in melee combat in the same Action Phase is considered to be *charging*. A charging attacker still suffers the –10 modifier for running, but they receive a damage bonus on account of their momentum: increase the damage they inflict by +1d10.

Receiving a Charge

You may delay your action (see p. 189) in order to *receive a charge,* bracing yourself for impact, interrupting their action, and striking right before your charging does. In this situation, you receive a +20 modifier for striking the charging opponent.

Demolitions

The most common use of the Demolitions skill is the placement, disarming, or manufacture of explosive devices, such as superthermite charges (p. 330) or grenades (p. 340).

Placing Explosives

A skilled demolitionist can place charges in a manner that will boost their effect. They can identify structural vulnerabilities and weak points and focus a blast in these areas. They can determine how to blast open a safe without destroying the contents. They can focus the force of an explosion in a particular direction, increasing the directed force while minimizing splash effects.

Each of these scenarios calls for a successful Demolitions Test. The exact result is determined by the gamemaster according to the specific scenario. For example, using the examples above, targeting a weak point could double the damage inflicted on that structure. Shaping the charge to direct the force can triple the damage in that direction, as noted in the superthermite description (p. 330). An Excellent Success is likely to increase an explosive's damage by +5, whereas a critical success would allow the blast to ignore armor.

Disarming

Disarming an explosive device is handled as an Opposed Test between the Demolitions skills of the disarmer and the character who set the bomb.

Making Explosives

A character trained in Demolitions can make explosives from raw materials. These materials can be gathered the traditional way or they can be manufactured using a nanofabricator. Even nanofabbers with restricted settings to prevent explosives creation can be used, as explosives can be constructed from all manner of mundane chemicals and materials.

The timeframe for making explosives is 1 hour per 1d10 points of damage the explosive will inflict. If a critical failure is rolled, the demolitionist may accidentally blow himself up, or the charge may be extremely weaker or more potent than expected (whichever is more likely to be disastrous).

Falling

If a character falls, use the Falling Damage table to determine what injuries they suffer. Kinetic armor will mitigate this damage at half its value (round down). Gamemasters may also reduce this damage if anything helped to break the fall (branches, soft surface) at their discretion.

FALLING DAMAGE

DISTANCE FALLEN	DAMAGE
1–2 meters	1d10
3–5 meters	2d10
6–8 meters	3d10
Over 8 meters	+1 per meter

FIRE

Objects that come into contact with extreme heat or flames may catch fire at the gamemaster's discretion, keeping in mind both the flammability of the material and the strength of the heat/flames. Burning items (or characters) will suffer 1d10 ÷ 2 (round up) damage each Action Turn unless otherwise noted. Energy armor will protect against this damage, though it too may catch fire, reducing its value by the damage inflicted. Depending on the environmental conditions, fires are likely to grow larger unless somehow abated. Every 5 Action Turns, increase the DV inflicted (first to 1d10, then 2d10, then 3d10, then by increments of +5). Adverse conditions (such as rain) or efforts to extinguish the blaze will reduce the DV accordingly.

Note that fire does not burn in vacuum. In microgravity, fire burns in a sphere and grows more slowly, as expanding gases push away the oxygen (increase the DV every 10 Action Turns). If there is a lack of air circulation, some microgravity fires may extinguish themselves.

FIRING MODES AND RATE OF FIRE

Every ranged weapon in *Eclipse Phase* comes with one or more firing modes that determines their rate of fire. These firing modes are detailed below.

SINGLE SHOT (SS)

Single shot weapons may only be fired once per Complex Action. These are typically larger or more archaic devices.

SEMI-AUTOMATIC (SA)

Semi-automatic weapons are capable of quick, repeated fire. They may be fired twice with the same Complex Action. Each shot is handled as a separate attack.

BURST FIRE (BF)

Burst fire weapons release a number of quick shots (a "burst") with a single trigger pull. Two bursts may be fired with the same Complex Action. Each burst is handled as a separate attack. Bursts use up 3 shots worth of ammunition.

A burst may be shot against a single target (concentrated fire), or against two targets who are standing within one meter of each other. In the case of concentrated fire against a single target, increase the DV by +1d10.

FULL AUTOMATIC (FA)

Full-auto weapons release a hail of shots with a single trigger pull. Only one full-auto attack may be made with each Complex Action. This attack may be made a single target or against up to three separate targets, as long as each is within one meter of another. In the case of a concentrated fire on a single individual, increase the DV by +1d10 + 10. Firing in full automatic mode uses up 10 shots.

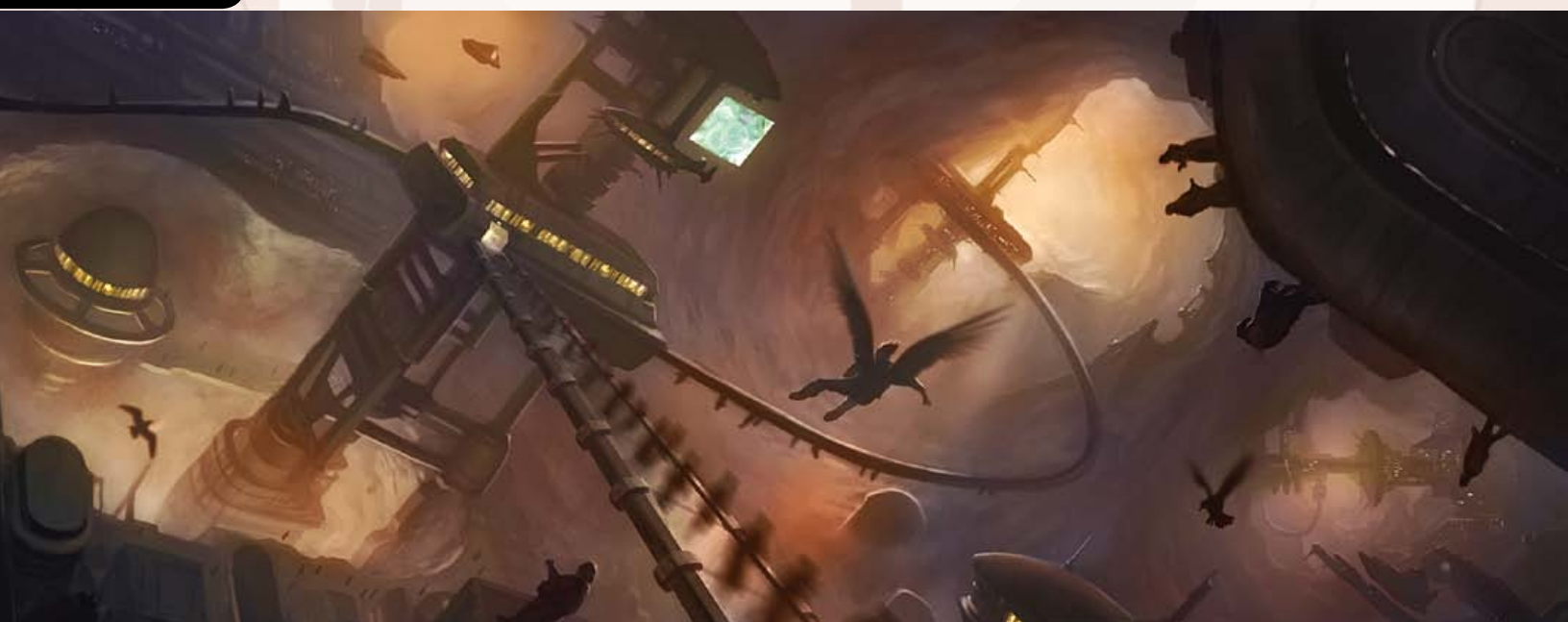
FULL DEFENSE

If you're expecting to come under fire, you can expend a Complex Action to go on full defense. This represents that you are expending all of your energy to dodge, duck, ward off attacks, and otherwise get the hell out of the way until your next Action Phase. During this time, you receive a +30 modifier to defend against all incoming attacks.

Characters who are on full defense may use Freerunning rather than Fray skill to dodge attacks, representing the gymnastic movements they are making to avoid being hit.

GRAVITY

Most characters in *Eclipse Phase* have considerable experience maneuvering in low gravity or microgravity and can perform normal actions without penalties. Even characters who grew up on planetary bodies or in rotating habitats have some familiarity with alternate gravities thanks to childhood training in simulspace educational scenarios. The same is also true in reverse; characters who grew up in free



fall have likely experienced simulations of life in a gravity well.

At the gamemaster's discretion, characters who have spent long periods acclimating to one range of gravity may find a shift in conditions a bit challenging to cope with, at least until they grow accustomed to the new gravity. In this case, the gamemaster can apply a –10 modifier to both physical and social skills. The physical penalty results from simple difficulties in maneuvering. The social penalty applies because it's hard to look impressive, intimidating, or seductive when you haven't figured out how to arrange your clothes so that they don't float up into your face. The physical penalty can be increased to –20 for situations involving combat skills and skills requiring fine manipulation, building, or repairing of items. These penalties will apply until the character adjusts, which typically takes about 3 days.

Any biomorph with basic biomods (p. 300) is immune to ill health from the effects of long-term exposure to microgravity.

Microgravity

Microgravity includes both zero-G and gravities that are slightly higher but negligible. These conditions are found in space, on asteroids and some small moons, and on (parts of) spaceships and habitats that are not rotated for gravity. Objects in microgravity are effectively weightless, but size and mass are still factors.

Things behave differently in microgravity. For example:

- Objects not anchored down will tend to drift off in whatever direction they were last moving. Floating objects will eventually settle in the direction of the densest part of the habitat or spacecraft.
- Thrown or pushed items will travel in a straight line until they hit something.
- Smoke does not rise in streams. Instead, it forms a roughly spherical halo around its source.
- Liquids have little cohesion, scattering into clouds of tiny droplets if released into the air. Drinks come in sealed bulbs or bottles. Food is eaten so that sauces and bits of liquid don't escape. Blood goes *everywhere*.

Movement and maneuvering in microgravity is handled using Free Fall skill (p. 179). Most everyday activity in free fall does not require a test. The gamemaster can, however, call for a Free Fall Test for any complicated maneuvers, flying across major distances, sudden changes in direction or velocity, or when engaged in melee combat. A failed roll means the character has miscalculated and ends up in a position other than intended. A Severe Failure means the character has screwed up badly, such as slamming themselves into a wall or sending themselves spinning off into space.

For convenience, most microgravity habitats feature furniture covered with elastic loops, mesh pockets to keep individual objects from floating all over the place, and moving beltways with hand loops for major thoroughfares. Magnetic or velcro shoes are also used to walk around, rather than climbing or flying. Zero-g environments are often designed to make maximum use of space, however, taking advantage of the lack of ceilings and floors. Because object are weightless, characters can move even massive objects around easily.

Movement Rate: Characters who are climbing, pulling, or pushing themselves along move at half their movement rate (p. 191) in microgravity.

Terminal Velocity: It is not difficult to reach escape velocity on small asteroids and similar bodies—something to keep in mind with thrown objects and projectile weapons. In some cases, characters who move fast enough and jump can reach escape velocity themselves, though these situations are left up to the gamemaster.

Low Gravity

Low gravity includes anything from 0.5 g to microgravity. These conditions are found on Luna, Mars, Titan, and the rotating parts of most spun spacecraft and habitats. Low gravity is not that different from standard gravity, though characters may jump twice as far and thrown/projectile objects have a longer range (p. 203). Increase the running rate for characters in low gravity by x1.5.

High Gravity

High gravity is anything significantly stronger than standard Earth gravity (1.2 g +). High gravity in *Eclipse Phase* is typically only found on exoplanets. High gravity can be particularly hard on characters as their bodies are strained because they carry more weights, muscles are fatigued from needing to push more around, and the heart must work harder to pump blood. For every 0.2 g over 1 that a character is not acclimated to, treat it as if the character is suffering from the effects of 1 wound. At the gamemaster's discretion, movement rates may also be modified.

Grenades and Seekers

Modern grenades, seekers, and similar explosives do not necessarily detonate the instant they are thrown or strike the target. In fact, several trigger options are available, each set by the user when deploying the weapon. Missed attacks, or attacks that do not explode in transit or when they strike, are subject to scatter (p. 204).

Airburst: Airburst means that the device explodes in mid-air as soon as it travels a distance programmed at launch. In this case, the explosive's effects are resolved immediately, in that user's Action Phase. Note that airburst munitions are programmed with a safety feature that will prevent detonation if they fail to travel a minimum precautionary distance from the launcher, though this can be overridden.

Impact: The grenade or missile goes off as soon as it hits something, whether that be the target, ground, or

an intervening object. Resolve the effects immediately, in the user's Action Phase.

Signal: The munition is primed for detonation upon receiving a command signal via wireless link. The device simply lays in wait until it receives the proper signal (which must include the cryptographic key assigned when the grenade was primed), detonating immediately when it does.

Timer: The device has a built-in timer allowing the user to adjust exactly when it detonates. This can be anywhere from 1 second to days, months, or even years later, effectively using the device like a bomb, but also increasing the likelihood it will be discovered and neutralized. The minimum detonation period—1 second—means that the munition will detonate on the user's (current) Initiative Score in the next Action Phase. A 2-second delay would last two Action Phases, a 3-second delay three Action phases, and so on.

Throwing Back Grenades

It is possible that a character may be able to reach a grenade before it detonates and throw it back (or away in a safe direction). The character must be within movement range of the grenade's location, and must take a Complex Action to make a REF + COO + COO Test to catch the rolling, sliding grenade. If they succeed, they may throw the grenade off in a direction of their choice with the same action (treat as a standard throwing attack).

If the character fails the test, however, they may find themselves at ground zero when it detonates.

Jumping On

Given the possibility of resleeving, a character may decide to take one for the team and throw themselves on a grenade, sacrificing themselves in order to protect others. The character must be within movement range of the grenade's location, and must take a Complex Action to make a REF + COO + WIL Test to fall on the grenade and cover it with their morph. This means the character suffers an extra 1d10 damage when the grenade detonates. On the positive side, the grenade's damage is reduced by the sacrificing character's armor + 10 when its damage effects are applied to others within the blast radius.

If the gamemaster feels it appropriate, a WIL x 3 Test might be called for in order for a character to sacrifice themselves in this manner.

Hostile Environments

The solar system might be friendly to life on a grand scale, but if you're stranded in the gravity well of Jupiter during a magnetic storm, trying to breathe without a respirator on Mars, or swimming in hard vacuum without a space suit, it doesn't seem so friendly. This section describes a few of the hostile environments that characters in *Eclipse Phase* might face.

Atmospheric Contamination

Habitats sometimes fall ill. The effects of a habitat suffering from ecological imbalance or out-of-control pathogens can range from mildly allergenic habitat atmospheres to rampaging environmental sepsis. Characters without breathing or filtration gear in a contaminated environment should suffer penalties to physical and possibly social skills, ranging from –10 (mild contamination) to –30 (severely septic atmosphere). Depending on the contamination, other effects may apply, as the gamemaster sees fit.

Extreme Heat and Cold

Planetary environments can range from the extremely hot (Venus, Mercury's day side) to the extremely frigid (Neptune, Titan, Uranus). Both are likely to kill an unprotected and unmodified biomorph within minutes, if not seconds. Synthmorphs and vehicles fare better, especially in the cold, but even they are likely to quickly succumb to the blazing furnaces of the inner planets without strong heat shields and cooling systems.

Extreme Pressure

Similarly, the atmospheric pressures of Jupiter, Saturn, and Venus quickly become crushingly deadly anywhere beyond the upper levels. Only synthmorphs and vehicles with special pressure adaptations can hope to survive such depths.

Gravity Transition Zones

The widespread use of artificial gravity in space habitats means that characters will often encounter places where the direction of down suddenly changes. In most rotating habitats, the standard design includes an axial zone where spacecraft can dock in microgravity and a carefully designed and marked transition zone (usually an elevator) where people and cargo coming and going from the axial spaceport can orient to local "down" and be standing in the right place when gravity takes effect. Gravity transitions in rotating habitats are almost always gradual but can be very dangerous if a character encounters them in the wrong place or time.

A character cast adrift in the microgravity zone at the axis of a rotating space habitat will slowly drift outward until they begin to encounter gravity, at which point they will fall. How long this takes varies on the size of the habitat. A good rule of thumb is that for each kilometer of diameter possessed by the habitat, the character has 30 seconds before they begin to fall. If the character was given a good push out from the axis when set adrift, this time should be halved, quartered, or more at the gamemaster's discretion.

Magnetic Fields

Magnetism isn't a direct problem for most characters; transhumans need to worry more about the radiation generated by a powerful magnetosphere. For unshielded electronic devices and similarly unshielded transhumans sporting titanium, however, the effects

of strong magnetic fields can be devastating. Note that many of the conditions that result in vehicles, bots, and gear being exposed to strong magnetic field activity coincide with strong radioactivity.

Magnetic fields affect synthmorphs, robots, vehicles, cybernetic implants, and electronics after 1 minute of exposure. Like radiation exposure, these effects can vary drastically. At the low end, communication and sensors will suffer interference and shortened ranges; at high ends, electronic systems will simply suffer damage and fail.

Radiation

Ionizing radiation is one of the more prevalent hazards in the solar system and one of the most difficult problems for transhumanity to defeat. Radiation damages genetic material, sickens, and kills by ionizing the chemicals involved in cell division within the human body. Effects range from nausea and fatigue to massive organ failure and death. However, radiation sickness is not solely a somatic phenomenon. The real terror of radiation for transhumans, especially at high dose levels such as those experienced on the surface of Ganymede and other Jovian moons, is damage to the neural network. This can lead to flawed uploads and backups. Nanomedicine that can rapidly reverse the ionization of cellular chemicals and new materials that offer thinner and better shielding help, but the sheer magnitude of the radiation put out by some bodies in the solar system defeats even these.

Radiation poisoning is a complicated affair, and detailed rules are beyond the scope of this book. Sources of radiation include the Earth's Van Allen belt, Jupiter's radiation belt, Saturn's magnetosphere, cosmic rays, solar flares, fission materials, unshielded fusion or antimatter explosions, and nuclear blasts, among others. Effects can vary drastically depending on the strength of the source, the amount of time exposed, and the level of shielding available. The immediate effects on biomorphs (manifesting anywhere from within minutes to 6 hours) can include nausea, vomiting, fatigue (reduced SOM), as well as both physical damage and minor amounts of mental stress. This is followed by a latency period where the biomorph seems to get better, lasting anywhere from 6 hours to 2 weeks. After this point, the final effects kick in, which can include hair loss, sterility, reduced SOM and DUR, severe damage to gastric and intestinal tissue, infections, uncontrolled bleeding, and death.

Synthmorphs are not quite as vulnerable as biomorphs, but even they can be damaged and disabled by severe radiation dosages.

Toxic Atmosphere

Neptune, Titan, Uranus, and Venus all have toxic atmospheres. Similar atmospheres may be found on some exoplanets, or might be intentionally created as a security measure within a habitat or structure.

A character who is unaware of atmospheric toxicity and does not immediately hold their breath (requiring a REF x 3 Test) suffers 10 points of damage per Action Turn. A character who manages to hold their breath can last a bit longer; apply the rules for asphyxiation (p. 194).

Corrosive Atmospheres: In addition to being toxic, Venus has the only naturally occurring corrosive atmosphere in the system. Corrosive atmospheres are immediately dangerous: characters take 10 points of damage per Action Turn, regardless of whether they hold their breath or not. Corrosive atmospheres also damage vehicles and gear not equipped with anti-corrosive shielding. Such items take 1 point of damage per minute. At greater concentrations, such as in the dense sulfuric acid clouds in the upper atmosphere of Venus, items takes 5 points of damage per minute.

Unbreathable Atmosphere

Very few of the planetary bodies in the solar system actually have toxic atmospheres. In most unbreathable atmospheres, the primary hazard for transhumans without breathing apparatus or modifications to their morph is lack of oxygen. Treat exposure to unbreathable atmospheres the same as asphyxiation.

Underwater

In general, any physical skill performed underwater suffers a –20 penalty due to the resistance of the medium. Skills relying on equipment not adapted for underwater use may be more difficult or impossible to use. A character's movement rate while swimming or walking underwater is one quarter their normal rate on land. If a character begins to drown underwater, follow the rules for asphyxiation (p. 194). Note that drowning characters do not immediately recover if rescued from the water; they will continue to asphyxiate until medical treatment is applied to clear the water from their lungs.

Vacuum

Biomorphs without vacuum sealing (p. 305) can spend one minute in the vacuum of space with no ill effects, provided they curl up into a ball, empty their lungs of air, and keep their eyes closed (something kids in space habitats learn at a very young age). Contrary to popular depictions in pre-Fall media, a character exposed to hard vacuum does not explosively decompress, nor do their internal fluids boil (other than relatively exposed liquids such as saliva on the tongue). Rather, the primary danger for characters on EVA sans vacsuit is asphyxiation due to lack of oxygen and associated complications such as edema in the lungs.

After one minute in space, the character begins to suffer from asphyxiation (p. 194). Damage is doubled if the character tries to hold air in their lungs or is not curled up in a vacuum survival position as described above. Additionally, characters trapped in space without adequate thermal protection suffer 10 points of damage per minute from the extreme cold.

IMPROVISED WEAPONS

WEAPONS	ARMOR PENETRATION (AP)	DAMAGE VALUE (DV)	AVERAGE DV	SKILL
Baseball	—	(1d10 ÷ 2) + (SOM ÷ 10)	2 + (SOM ÷ 10)	Throwing Weapons
Bottle	—	1 + (SOM ÷ 10), breaks after 1 use	1 + (SOM ÷ 10)	Clubs or Throwing Weapons
Bottle (Broken)	—	1d10 – 1 (min. 1)	4	Blades
Chain	—	1d10 + (SOM ÷ 10)	5 + (SOM ÷ 10)	Exotic Melee
Helmet	—	1d10 + (SOM ÷ 10)	5 + (SOM ÷ 10)	Clubs or Throwing Weapons
Plasma Torch	–6	2d10	11	Exotic Ranged
Wrench	—	1d10 + (SOM ÷ 10)	5 + (SOM ÷ 10)	Clubs

IMPROVISED WEAPONS

Sometimes characters are caught off-guard and they must use whatever they happen to have at hand as a weapon—or they think they look cool wailing on someone with a meter of chain. The Improvised Weapons table offers statistics for a few likely ad-hoc items. Gamemasters can use these as guidelines for handling items that aren't listed.

KNOCKDOWN/KNOCKBACK

If an attacker's intent is to simply knock an opponent down or back in melee, rather than injure them, roll the attack and defense as normal. If the attacker succeeds, the defender is knocked backward by 1 meter per 10 full points of MoS. To knock an opponent down, the attacker must score an Excellent Success (MoS 30+). A knockback/knockdown attack must be declared before dice are rolled.

Unless the attacker rolls a critical success, no damage is inflicted with this attack, the defender is simply knocked down. If the attacker rolls a critical hit, however, apply damage as normal in addition to the knockback/knockdown.

Note that characters wounded by an attack may also be knocked down (see *Wound Effects,* p. 207).

MELEE AND THROWN DAMAGE BONUS

Every successful melee and thrown weapon attack, whether unarmed or with a weapon, receives a damage bonus equal to the attacker's SOM ÷ 10, round down. See *Damage Bonus,* p. 123.

MULTIPLE TARGETS

When doling out the damage, there's no reason not to share the love.

MELEE COMBAT

A character taking a Complex Action to engage in a melee attack may choose to attack two or more opponents with the same action. Each opponent must be within one meter of another attacked opponent. These attacks must be declared before the dice are rolled for the first attack. Each attack suffers a cumulative –20 modifier for each extra target. So if a character declares they are going to attack three characters with the same action, they suffer a cumulative –60 on each attack.

RANGED COMBAT

A character firing two semi-auto shots with a Complex Action may target a different opponent with each shot. In this case, the attacker suffers a –20 modifier against the second target.

A character firing a burst-fire weapon may target up to two targets with each burst, as long as those targets are within one meter of one another. This is handled as a single attack; see *Burst Fire,* p. 198.

A character firing a burst-fire weapon twice with one Complex Action may target a different person or pair with each burst. In this case, the second burst suffers a –20 modifier. This modifier does not apply if the same person/pair targeted with the first burst is targeted again.

Full-auto attacks may also be directed at more than one target, as long as each target is within one meter of the previous target. This is handled as a single attack; see *Full Auto,* p. 198.

OBJECTS AND STRUCTURES

As any poor wall in the vicinity of an enraged drunk can tell you, objects and structures are not immune to violence and attrition. To reflect this, inanimate objects and structures are given Durability, Wound Threshold, and Armor scores, just like characters. Durability measures how much damage the structure can take before it is destroyed. Armor reduces the damage inflicted by attacks, as normal. For simplicity, a single Armor rating is given that counts as both Energy and Kinetic armor; at the gamemaster's discretion, these may be modified as appropriate.

Wounds suffered by objects and structures do not have the same effect as wounds inflicted on characters. Each wound is simply treated as a hole, partial demolition, or impaired function, as the gamemaster sees fit. Alternately, a wounded device may function less effectively, and so may inflict a negative modifier on skill tests made while using that object (a cumulative –10 per wound).

In the case of large structures, it is recommended that individual parts of the structure be treated as separate entities for the purpose of inflicting damage.

RANGED ATTACKS

Ranged combat attacks inflict only one-third their damage (round down) on large structures such

SAMPLE OBJECTS AND STRUCTURES

OBJECT/STRUCTURE	ARMOR	DURABILITY	WOUND THRESHOLD
Advanced Composites (ship/habitat hull)	50	1,000	200
Aerogel (walls, windows, etc.)	—	50	10
Airlock Door	15	100	25
Alloys, Concrete, Hardened Polymers (reinforced doors/walls)	30	100	20
Armored Glass	10	50	20
Counter	7	60	12
Desk	5	50	10
Ecto link	—	6	1
Metallic Foam (walls, doors, etc.)	20	70	15
Metallic Glass	30	150	30
Polymer or Wood (walls, doors, furniture, etc.)	10	40	8
Quantum Farcaster Link	3	20	4
Transparent Alumina (walls, furniture)	5	60	12
Tree	2	40	10
Window	—	5	1

as doors, walls, etc. This reflects the fact that most ranged attacks simply penetrate the structure, leaving minor damage.

Agonizers and stunners have no effect on objects and structures.

SHOOTING THROUGH

If a character attempts to shoot through an object or structure at a target on the other side, the attack is likely to suffer a blind fire modifier of at least –30 unless the attack has some way of viewing the target. On top of this, the target receives an armor bonus equal to the object/structure's Armor rating x 2.

RANGE

Every type of ranged weapon has a limited range, beyond which it is ineffective. The effective range of the weapon is further broken down into four categories: Short, Medium, Long, and Extreme. A modifier is applied for each category, as noted on the Combat Modifiers table, p. 193.

For examples of specific weapon ranges, see the Weapon Ranges table.

RANGE, GRAVITY, AND VACUUM

The ranges listed on the Weapon Ranges table are for Earth-like gravity conditions (1 g). While the effective ranges of kinetic, seeker, spray, and thrown weapons can potentially increase in lower gravity environments due to lack of gravitational forces or aerodynamic drag, accuracy is still the defining factor for determining whether you hit or miss a target. In lower gravities, use the same effective ranges listed, but extend the maximum range by dividing it by the gravity (for example, a max range of 100 meters would be 200 meters in 0.5 g). In microgravity and zero g, the maximum range is effectively line of sight. Likewise, under high-gravity conditions (over 1 g), divide each range category maximum by the gravity (e.g., a short range of 10 meters would be 5 meters in 2 g).

Beam weapons are not affected by gravity, but they do fare much better in non-atmospheric conditions. Maximum beam weapon range in vacuum is effectively line of sight.

WEAPON RANGES

WEAPON (TYPE)	SHORT RANGE	MEDIUM RANGE (–10)	LONG RANGE (–20)	EXTREME RANGE (–30)
Firearms				
Light Pistol	0–10	11–25	26–40	41–60
Medium Pistol	0–10	11–30	31–50	51–70
Heavy Pistol	0–10	11–35	36–60	61–80
SMG	0–30	31–80	81–125	126–230
Assault Rifle	0–150	151–250	251–500	501–900
Sniper Rifle	0–180	181–400	401–1,100	1,100–2,300
Machine Gun	0–100	101–400	401–1,000	1,001–2,000
Railguns				
as Firearms but increase the effective range in each category by +50%				
Beam Weapons				
Cybernetic Hand Laser	0–30	31–80	81–125	126–230
Laser Pulser	0–30	31–100	101–150	151–250
Microwave Agonizer	0–5	6–15	16–30	31–50
Particle Beam Bolter	0–30	31–100	101–150	151–300
Plasma Rifle	0–20	21–50	51–100	101–300
Stunner	0–10	11–25	26–40	41–60
Seekers				
Seeker Micromissile	5–70	71–180	181–600	601–2,000
Seeker Minimissile	5–150	151–300	301–1,000	1,001–3,000
Seeker Standard Missile	5–300	301–1,000	1001–3,000	3001–10,000
Spray Weapons				
Buzzer	0–5	6–15	16–30	31–50
Freezer	0–5	6–15	16–30	31–50
Shard Pistol	0–10	11–30	31–50	51–70
Shredder	0–10	11–40	41–70	71–100
Sprayer	0–5	6–15	16–30	31–50
Torch	0–5	6–15	16–30	31–50
Vortex Ring Gun	0–5	6–15	16–30	31–50
Thrown Weapons				
Blades	To SOM ÷ 5	To SOM ÷ 2	To SOM	To SOM x 2
Minigrenades	To SOM ÷ 2	To SOM	To SOM x 2	To SOM x 3
Standard Grenades	To SOM ÷ 5	To SOM ÷ 2	To SOM	To SOM x 3

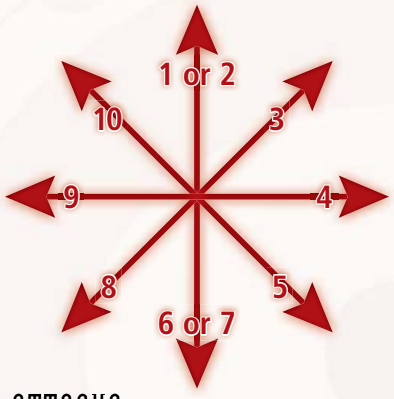
Reach

Some weapons extend a character's reach, giving them a significant advantage over an opponent in melee combat. This applies to any weapon over half a meter long: axes, clubs, swords, shock batons, etc. Whenever one character has a reach advantage over another, they receive a +10 modifier for both attacking and defending.

Scatter

When you are using a blast weapon, you may still catch your target in the blast radius even if you fail to hit them directly. Weapons such as grenades must go somewhere when they miss, and exactly where they land may be important to the outcome of a battle. To determine where a missed blast attack falls, the scatter rules are called into play.

To determine scatter, roll a d10 and note where the die "points" (using yourself as the reference point). This is the direction from the target that the missed blast lands. The die roll also determines how far away the blast lands, in meters. If the MoF on the attack is over 30, this distance is doubled. If the MoF exceeds 60, the distance is tripled. This point determines the epicenter of the blast; resolve the effects of damage against anyone caught within its sphere of effect as normal (see *Blast Effect*, p. 193).



Shock Attacks

Shock weapons use high-voltage electrical jolts to physically stun and incapacitate targets. Shock weapons are particularly effective against biomorphs and pods, even when heavily armored. Synthmorphs, bots, and vehicles are immune to shock weapon effects.

A biomorph struck with a shock weapon must make a DUR + Energy Armor Test (using their current DUR score, reduced by damage they have taken). If they fail, they immediately lose neuromuscular control, fall down, and are incapacitated for 1 Action Turn per 10 full points of MoF (minimum of 3 Action Turns). During this time they are stunned and incapable of taking any action, possibly convulsing, suffering vertigo, nausea, etc. After this period, they may act but they remain stunned and shaken, suffering a –30 modifier to all actions. This modifier reduces by 10 per minute (so –20 after 1 minute, –10 after 2 minutes, and no modifier after 3 minutes). Many shock weapons also inflict DV, which is handled as normal.

A biomorph that succeeds the DUR Test is still shocked but not incapacitated. They suffer half the listed DV and suffer a –30 modifier until the end of the next Action Turn. This modifier reduces by 10 per Action Turn. Modifiers from additional shocks are not cumulative, but will boost the modifier back to its maximum value.

Subdual

To grapple an opponent in melee combat, you must declare your intent to subdue before making the die roll. Any appropriate melee skill may be used for the attack; if wielding a weapon, it may be used as part of the grappling technique. If you succeed in your attack with an Excellent Success (MoS of 30+), you have successfully subdued your opponent (for the moment, at least). Grappling attacks do not cause damage unless you roll a critical success (though even in this case you can choose not to).

A subdued opponent is temporarily restrained or immobilized. They may communicate, use mental skills, and take mesh actions, but they may not take any physical actions other than trying to break free. (At the gamemaster's discretion, they may make small, restrained physical actions, such as reaching for a knife in their pocket or grabbing an item dropped a few centimeters away on the floor, but these actions should suffer at least a –30 modifier and may be noticed by their grappler).

To break free, a grappled character must take a Complex Action and succeed in either an Opposed Unarmed Combat Test or an Opposed SOM x 3 Test, though the subdued character suffers a –30 modifier on this test.

Suppressive Fire

A character firing a weapon in full-auto mode (p. 198) may choose to lay down suppressive fire over an area rather than targeting anyone specifically, with the intent of making everyone in the suppressed area keep their heads down. This takes a Complex Action, uses up 20 shots, and lasts until the character's next Action Phase. The suppressed area extends out in a cone, with the widest diameter of the cone being up to 20 meters across. Any character who is not behind cover or who does not immediately move behind cover on their action is at risk of getting hit by the suppressive fire. If they move out of cover inside the suppressed area, the character laying down suppressive fire gets one free attack against them, which they may defend against as normal. Apply no modifiers to these tests except for range, wounds, and full defense. If hit, the struck character must resist damage as if from a single shot.

Surprise

Characters who wish to ambush another must seek to gain the advantage of surprise. This typically means sneaking up on, lying in wait, or sniping from a hard-to-perceive position in the distance. Any time an ambusher (or group of ambushers) attempts to surprise a

target (or group of targets), make a secret Perception Test for the ambushee(s). Unless they are alert for surprises, this test should suffer the typical –20 modifier for being distracted. This is an Opposed Test against the ambusher(s) Infiltration skill. Depending on the attacker's position, other modifiers may also apply (distance, visibility, cover, etc.).

If the Perception Test fails, the character is surprised by the attack and cannot react to or defend against it. In this case, simply give the attacker(s) a free Action Phase to attack the surprised character(s). Once the attackers have taken their actions, roll Initiative as normal.

If the Perception Test succeeds, the character is alerted to something a split-second before they are ambushed, giving them a chance to react. In this case, roll Initiative as normal, but the ambushed character(s) suffers a –30 modifier to the Initiative Test. The ambushed character may still defend as normal.

In a group situation, things can get more complicated when some characters are surprised and others aren't. In this case, roll Initiative as normal, with all non-ambushers suffering the –30 modifier. Any characters who are surprised are simply unable to take action on the first Action Phase, as they are caught off-guard and must take a moment to assess what's going on and get caught up with the action. As above, surprised characters my not defend on this first Action Phase.

Tactical Networks

Tactical networks are specialized software programs used by teams that benefit from the sharing of tactical data. They are commonly used by sports teams, security outfits, military units, AR gamers, gatecrashers, surveyors, miners, traffic control, scavengers, and anyone else who needs a tactical overview of a situation. Firewall teams regularly take advantage of them.

In game terms, tacnets provide specialized software skills and tools to a muse or AI, as best fits their tactical needs. These tools link together and share and analyze data between all of the participants in the network, creating a customizable entoptics display for each user that summarizes relevant data, highlights interactions and priorities, and alerts the user to matters that require their attention.

Combat Tacnets

The following list is a sample of a typical combat tacnet's features. Gamemasters are encouraged to modify and expand these options as appropriate to their game:

- **Maps:** Tacnets assemble all available maps and can present them to the user with a bird's eye view or as a three-dimensional interactive, with distances between relevant features readily accessible. The AI or muse can also plot maps based on sensory input, breadcrumb positioning systems (p. 332), and other data. Plotted paths and other data from these maps can be displayed as entoptic images or other AR sensory input (e.g., a user who should be turning left might see a transparent red arrow or feel a tingling sensation on their left side).
- **Positioning:** The exact positioning of the user and all other participants are updated and mapped according to mesh positioning and GPS. Likewise, the positioning of known people, bots, vehicles, and other features can also be plotted according to sensory input.
- **Sensory Input:** Any sensory input available to a participating character or device in the network can be fed into the system and shared. This includes data from cybernetic senses, portable sensors, smartlink guncams, XP output, etc. This allows one user to immediately call up and access the sensor feed of another user.
- **Communications Management:** The tacnet maintains an encrypted link between all users and stays wary both of participants who drop out or of attempts to hack or interfere with the communications link.
- **Smartlink/Weapon Data:** The tacnet monitors the status of weapons, accessories, and other gear via the smartlink interface or wireless link, bringing damage, shortages, and other issues to the user's attention.
- **Indirect Fire:** Members of a tacnet can provide targeting data to each other for purposes of indirect fire (p. 195).
- **Analysis:** The muses and AIs participating in the tacnet are bolstered with skill software and

databases that enable them to interpret incoming data and sensory feeds. Perhaps the most useful aspect of tacnets, this means that the muse/AI may notice facts or details individual users are likely to have overlooked. For example, the tacnet can count shots fired by opponents, note when they are likely running low, and even analyze sensory input to determine the type of weaponry and ammunition being used. Opponents and their gear can also be scanned and analyzed to note potential weaknesses, injuries, and capabilities. If sensor contact with an opponent is lost, the last known location is memorized and potential movement vectors and distances are displayed. Opponent positioning can also identify lines of sight and fields of fire, alerting the user to areas of potential cover or danger. The tacnet can also suggest tactical maneuvers that will aid the user, such as flanking an opponent or acquiring better elevation.

Many of these features are immediately accessible to the user via their AR display; other data can be accessed with a Quick Action. Likewise, the gamemaster decides when the muse/AI provides important alerts to the user. At the gamemaster's discretion, some of these features may apply modifiers to the character's tests.

Touch-Only Attack

Some types of attacks simply require you to *touch* your target, rather than injure them, and are correspondingly easier. This might apply when trying to slap them with a dermal drug patch, spreading a contact poison on their skin, or making skin-to-skin contact for the use of a psi sleight. In situations like this, apply a +20 modifier to your melee attacks.

Two-Handed Weapons

Any weapon noted as two-handed requires two hands (or other prehensile limbs) to wield effectively. This applies to some archaic melee weapons (large swords, spears, etc.) in addition to certain larger firearms and heavy weapons. Any character that attempts to use such a weapon single-handed suffers a –20 modifier.

Wielding Two or More Weapons

It is possible for a character to wield two weapons in combat, or even more if they are an octomorph or multi-limbed synthmorph. In this case, each weapon that is held in an off-hand suffers a –20 off-hand weapon modifier. This modifier may be offset with the Ambidextrous trait (p. 145).

Extra Melee Weapons

The use of two or more melee weapons is treated as a single attack, rather than multiple. Each additional weapon applies +1d10 damage to the attack (up to a maximum +3d10). If the character attacks multiple targets with the same Complex Action (see *Multiple Targets,* p. 202), this bonus does not apply. The attacker must, of course, be capable of actually wielding the additional weapons. A splicer with only two hands cannot wield a knife and a two-handed sword, for example. Likewise, the gamemaster may ignore this damage bonus for extra weapons that are too dissimilar to use together effectively (like a whip and a pool cue). Note that extra limbs do not count as extra weapons in unarmed combat, nor do weapons that come as a pair (such as shock gloves).

A character using more than one melee weapon receives a bonus for defending against melee attacks equal to +10 per extra weapon (maximum +30).

Extra Ranged Weapons

Similarly, an attacker can wield a pistol in each hand for ranged combat, or larger weapons if they have more limbs (an eight-limbed octomorph, for example, could conceivably hold four assault rifles). These weapons may all be fired at once towards the same target. In this case, each weapon is handled as a separate attack, with each off-hand weapon suffering a cumulative off-hand weapon modifier (no modifier for the first attack, –20 for the second, –40 for the third, and –60 for the fourth), offset by the Ambidextrous trait (p. 145) as usual.

Physical Health

In a setting as dangerous as *Eclipse Phase,* characters are inevitably going to get hurt. Whether your morph is biological or synthetic, you can be injured by weapons, brawling, falling, accidents, extreme environments, psi attacks, and so on. This section discusses how to track such injuries and determine what effect they have on your character. Two methods are used to gauge a character's physical health: *damage points* and *wounds.*

Damage Points

Any physical harm that befalls your character is measured in damage points. These points are cumulative, and are recorded on your character sheet. Damage points are characterized as fatigue, stun, bruises, bumps, sprains, minor cuts, and similar hurts that, while painful, do not significantly impair or threaten your character's life unless they accumulate to a significant amount. Any source of harm that inflicts a large amount of damage points at once, however, is likely to have a more severe effect (see *Wounds,* p. 207).

Damage points may be reduced by rest, medical care, and/or repair (see *Healing and Repair,* p. 208).

Damage Types

Physical damage comes in three forms: Energy, Kinetic, and Psi.

Energy Damage

Energy damage includes lasers, plasma guns, fire, electrocution, explosions, and others sources of damaging energy.

Kinetic Damage

Kinetic damage is caused by projectiles and other objects moving at great speeds that disperse their energy into the target upon impact. Kinetic attacks include slug-throwers, flechette weapons, knives, and punches.

Psi Damage

Psi damage is caused by offensive psi sleights like Psychic Stab (p. 228).

Durability and Health

Your character's physical health is measured by their Durability stat. For characters sleeved in biomorphs, this figure represents the point at which accumulated damage points overwhelm your character and they fall unconscious. Once you have accumulated damage points equal to or exceeding your Durability stat, you immediately collapse from exhaustion and physical abuse. You remain unconscious and may not be revived until your damage points are reduced below your Durability, either from medical care or natural healing.

If you are morphed in a synthetic shell, Durability represents your structural integrity. You become physically disabled when accumulated damage points reach your Durability. Though your computer systems are likely still functioning and you can still mesh, your morph is broken and immobile until repaired.

Death

An extreme accumulation of damage points can threaten your character's life. If the damage reaches your Durability x 1.5 (for biomorphs) or Durability x 2 (for synthetic morphs), your body dies. This known as your Death Rating. Synthetic morphs that reach this state are destroyed beyond repair.

Damage Value

Weapons (and other sources of injury) in *Eclipse Phase* have a listed Damage Value (DV)—the base amount of damage points the weapon inflicts. This is often presented as a variable amount, in the form of a die roll; for example: 3d10. In this case, you roll three ten-sided dice and add up the results (counting 0 as 10). Sometimes the DV will be presented as a dice roll plus modifier; for example: 2d10 + 5. In this case you roll two ten-sided dice, add them together, and then add 5 to get the result.

For simplicity, a static amount is also noted in parentheses after the variable amount. If you prefer to skip the dice rolling, you can just apply the static amount (usually close to the mean average) instead. For example, if the damage were noted 2d10 + 5 (15), you could simply apply 15 damage points instead of rolling dice.

When damage is inflicted on a character, determine the DV (roll the dice) and subtract the modified armor value, as noted under *Step 7: Determine Damage* (p. 192).

Wounds

Wounds represent more grievous injuries: bad cuts and hemorrhaging, fractures and breaks, mangled limbs, and other serious damage that impairs your ability to function and may lead to death or long-term damage.

Any time your character sustains damage, compare the amount inflicted (after it has been reduced by armor) to your Wound Threshold. If the modified DV equals or exceeds your Wound Threshold, you have suffered a wound. If the inflicted damage is double your Wound Threshold, you suffer 2 wounds; if triple your Wound Threshold, you suffer 3 wounds; and so on.

Wounds are cumulative, and must be marked on your character sheet.

Note that these rules handle damage and wounds as an abstract concept. For drama and realism, gamemasters may wish to describe wounds in more detailed and grisly terms: a broken ankle, a severed tendon, internal bleeding, a lost ear, and so on. The nature of such descriptive injuries may help the gamemaster assign other effects. For example, a character with a crushed hand may not be able to pick up a gun, someone with excessive blood loss may leave a trail for their enemies to follow, or someone with a cut eye may suffer an additional visual perception modifier. Likewise, such details may impact how a character is treated or heals.

Wound Effects

Each wound applies a cumulative –10 modifier to all of the character's actions. A character with 3 wounds, for example, suffers –30 to all actions.

Some traits, morphs, implants, drugs, and psi allow a character to ignore wound modifiers. These effects are cumulative, though the maximum amount of wound modifiers that may be negated is –30.

Knockdown: Any time a character takes a wound, they must make an immediate SOM x 3 Test. Wound modifiers apply. If they fail, they are knocked down and must expend a Quick Action to get back up. Bots and vehicles must make a Pilot Test to avoid crashing.

Unconsciousness: Any time a character receives 2 or more wounds at once (from the same attack), they must also make an immediate SOM x 3 Test; wound modifiers again apply. If they fail, they have been knocked unconscious. Bots and vehicles that take 2 or more wounds at once automatically crash (see *Crashing,* p. 196).

Bleeding: Any biomorph character who has suffered a wound and who takes damage that exceeds their Durability is in danger of bleeding to death. They incur 1 additional damage point per Action Turn (20 per minute) until they receive medical care or die.

Death

For many people in *Eclipse Phase,* death is not the end of the line. If the character's cortical stack can be retrieved, they can be resurrected and downloaded into a new morph (see *Resleeving,* p. 271). This typically

requires either backup insurance (p. 269) or the good graces of whomever ends up with their body/stack.

If the cortical stack is not retrievable, the character still be re-instantiated from an archived backup (p. 268). Again, this either requires backup insurance or someone who is willing to pay to have them revived.

If the character's cortical stack is not retrieved and they have no backup, then they are completely and utterly dead. Gone. Kaput. (Unless they happen to have an alpha fork of themselves floating around somewhere; see *Forking and Merging,* p. 273.)

HEALING AND REPAIR

Use the follow rules for healing and repairing damaged and wounded characters.

BIOMORPH HEALING

Thanks to advanced medical technologies, there are many ways for characters in biological morphs (including pods) to heal injuries. Medichine nanoware (p. 308) helps characters to heal quickly, as do nanobandages (p. 333). Healing vats (p. 326) will heal even the most grievous wounds in a matter of days, and can even restore characters who recently died or have been reduced to just a head.

Characters without access to these medical tools are not without hope, of course. The medical skills of a trained professional can abate the impact of wounds, and over time bodies will of course heal themselves.

MEDICAL CARE

Characters with an appropriate Medicine skill (such as Medicine: Paramedic or Medicine: Trauma Surgery) can perform first aid on damaged or wounded characters. A successful Medicine Test, modified as the gamemaster deems fit according to situational conditions, will heal 1d10 points of damage and will remove 1 wound. This test must be made within 24 hours of the injury, and any particular injury may only be treated once. If the character is later injured again, however, this new damage may also be treated. Medical care of this sort is not effective against injuries that have been treated with medichines, nanobandages, or healing vats.

NATURAL HEALING

Characters trapped far from medical technology—in a remote station, the wilds of Mars, or the like—may be forced to heal naturally if injured. Natural healing is a slow process that's heavily influenced by a number of factors. In order for a character to heal wounds, all normal damage must be healed first. Consult the Healing table.

SURGERY

In *Eclipse Phase,* most grievous injuries can be handled by time in a healing vat (p. 326) or simply rest and recovery. In circumstances where a healing vat is not available, the gamemaster may decide that a particular wound requires actual surgery from an intelligent being (whether a character or AI-driven medbot). Usually in this case the character will be incapable of further healing until the surgery occurs. The surgery is handled as a Medical Test using a field appropriate to the situation and with a timeframe of 1–8 hours. If successful, the character is healed of 1d10 damage and 1 wound and recovers from that point on as normal.

SYNTHMORPH AND OBJECT REPAIR

Unlike biomorphs, synthetic morphs and objects do not heal damage on their own and must be repaired. Some synthmorphs and devices have advanced nanotech self-repair systems, similar to medichines for biomorphs (see *Fixers,* p. 329). Repair spray (p. 333) may also be used to conduct fixes and is an extremely useful option for non-technical people. Barring these options, technicians may also work repairs the old-fashioned way, using their skills and tools (see *Physical Repairs,* below). As a last resort, synthmorphs and objects may be repaired in a nanofabrication machine with the appropriate blueprints (using the same rules as healing vats, p. 326).

PHYSICAL REPAIRS

Manually fixing a synthmorph or object requires a Hardware Test using a field appropriate to the item (Hardware: Robotics for synthmorphs and bots, Hardware: Aerospace for aircraft, etc.), with a –10 modifier per wound. Repair is a Task Action with a timeframe of 2 hours per 10 points of damage being restored, plus 8 hours per wound. Appropriate

HEALING

CHARACTER SITUATION	DAMAGE HEALING RATE	WOUND HEALING RATE
Character without basic biomods	1d10 (5) per day	1 per week
Character with basic biomods	1d10 (5) per 12 hours	1 per 3 days
Character using nanobandage	1d10 (5) per 2 hours	1 per day
Character with medichines	1d10 (5) per 1 hour	1 per 12 hours
Poor conditions (bad food, not enough rest/heavy activity, poor shelter and/or sanitation)	double timeframe	double timeframe
Harsh conditions (insufficient food, no rest/strenuous activity, little or no shelter and/or sanitation)	triple timeframe	no wound healing

modifiers should be applied, based on conditions and available tools. For example, utilitools (p. 326) apply a +20 modifier to repair tests, while repair spray applies a +30 modifier.

Repairing Armor

Armor may be repaired in the same manner as Durability, however, wounds do not impact the test with modifiers or extra time.

Mental Health

In a time when people can discard bodies and replace them with new ones, trauma inflicted on your mind and ego—your sense of *self*—is often more frightening than grievous physical harm. There are many ways in which your sanity and mental wholeness can be threatened: experiencing physical death, extended isolation, loss of loved ones, *alien* situations, discontinuity of self from lost memories or switching morphs, psi attack, and so on. Two methods are used to gauge your mental health: *stress points* and *trauma*.

Stress Points

Stress points represent fractures in your ego's integrity, cracks in the mental image of yourself. This mental damage is experienced as cerebral shocks, disorientation, cognitive disconnects, synaptic misfires, or an undermining of the intellectual faculties. On their own, these stress points do not significantly impair your character's functioning, but if allowed to accumulate they can have severe repercussions. Additionally, any source that inflicts a large amount of stress points at once is likely to have a more severe impact (see *Trauma*).

Stress points may be reduced by long-term rest, psychiatric care, and/or psychosurgery (see p. 214).

Lucidity and Stress

Your Lucidity stat benchmarks your character's mental stability. If you build up an amount of stress points equal to or greater than your Lucidity score, your character's ego immediately suffers a mental breakdown. You effectively go into shock and remain in a catatonic state until your stress points are reduced to a level below your Lucidity stat. Accumulated stress points will overwhelm egos housed inside synthetic shells or infomorphs just as they will biological brains—the mental software effectively seizes up, incapable of functioning until it is debugged.

Insanity Rating

Extreme amounts of built-up stress points can permanently damage your character's sanity. If accumulated stress points reach your Lucidity x 2, your character's ego undergoes a permanent meltdown. Your mind is lost, and no amount of psych help or rest will ever bring it back.

Stress Value

Any source capable of inflicting cognitive stress is given a Stress Value (SV). This indicates the amount of stress points the attack or experience inflicts upon a character. Like DV, SV is often presented as a variable amount, such as 2d10, or sometimes with a modifier, such as 2d10 + 10. Simply roll the dice and total the amounts to determine the stress points inflicted in that instance. To make things easier, a static SV is also given in parentheses after the variable amount; use that set amount when you wish to keep the game moving and don't want to roll dice.

Trauma

Mental trauma is more severe than stress points. Traumas represent severe mental shocks, a crumbling of personality/self, delirium, paradigm shifts, and other serious cognitive malfunctions. Traumas impair your character's functioning and may result in temporary derangements or permanent disorders.

If your character receives a number of stress points at once that equals or exceeds their Trauma Threshold, they have suffered a trauma. If the inflicted stress points are double or triple the Trauma Threshold, they suffer 2 or 3 traumas, respectively, and so on. Traumas are cumulative and must be recorded on your character sheet.

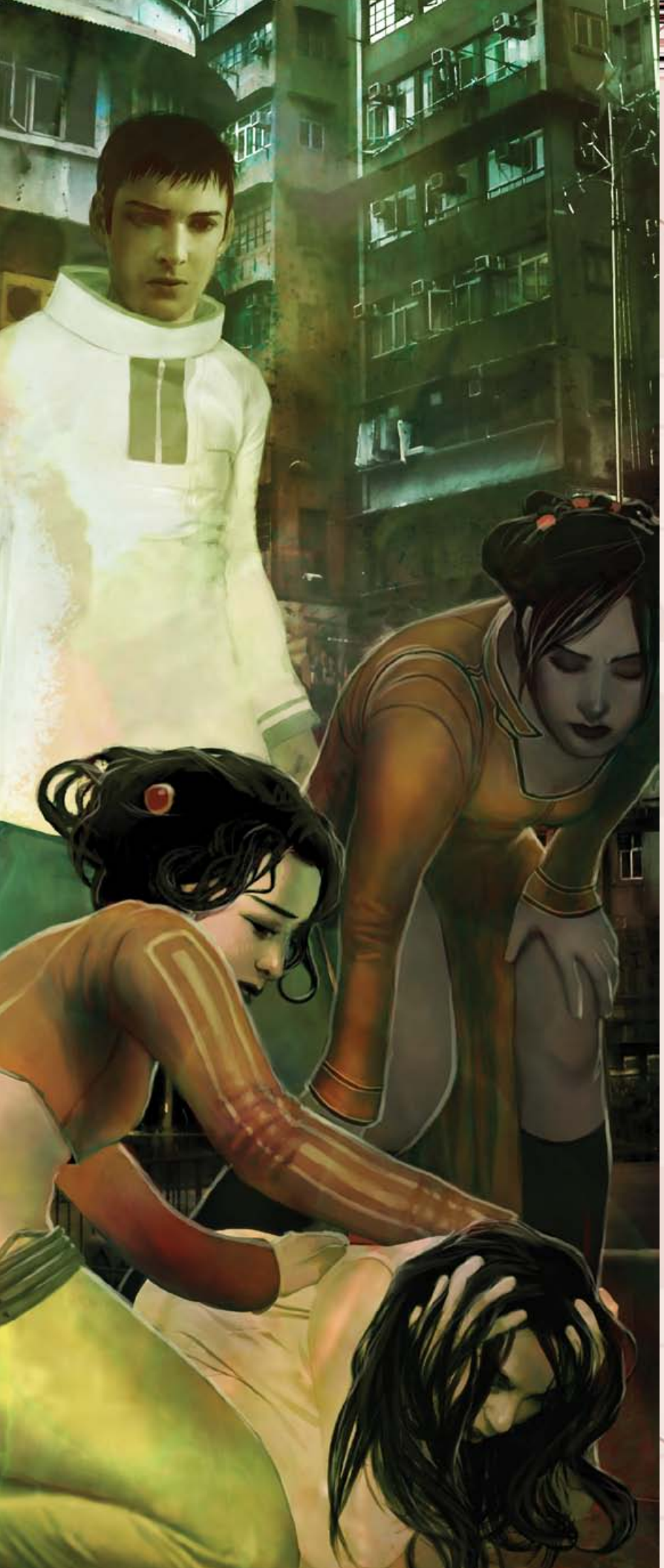
Trauma Effects

Each trauma applies a cumulative –10 modifier to all of the character's actions. A character with 2 traumas, for example, suffers –20 to all actions. These modifiers are also cumulative with wound modifiers.

Disorientation: Any time a character suffers a trauma, they must make an immediate WIL x 3 Test. Trauma modifiers apply. If they fail, they are temporarily stunned and disoriented, and must expend a Complex Action to regain their wits.

Derangements and Disorders: Any time a character is hit with a trauma, they suffer a temporary derangement (see *Derangements*). The first trauma inflicts a *minor* derangement. If a second trauma is applied, the first derangement is either upgraded from minor to a *moderate* derangement, or else a second minor derangement is applied (gamemaster's discretion). Likewise, a third trauma may upgrade that derangement from moderate to *major* or else inflict a new minor. It is generally recommended that derangements be upgraded in potency, especially when result from the same set of ongoing circumstances. In the case of traumas that result from distinctly separate situations and sources, separate derangements may be applied.

Disorder: When four or more traumas have been inflicted on a character, a major derangement is upgraded to a disorder. Disorders represent long-lasting psychological afflictions that typically require weeks or even months of psychotherapy and/or psychosurgery to remedy (see *Disorders,* p. 211).



Derangements

Derangements are temporary mental conditions that result from traumas. Derangements are measured as Minor, Moderate, or Major. The gamemaster and player should cooperate in choosing which derangement to apply, as appropriate to the scenario and character personality.

Derangements last for 1d10 ÷ 2 hours (round down), or until the character receives psychiatric help, whichever comes first. At the gamemaster's discretion, a derangement may last longer if the character has not been distanced from the source of the stress, or if they remain embroiled in other stress-inducing situations.

Derangement effects are meant to be role-played. The player should incorporate the derangement into their character's words and actions. If the gamemaster doesn't feel the player is stressing the effects enough, they can emphasize them. If the gamemaster feels it is appropriate, they may also call for additional modifiers or tests for certain actions.

Anxiety (Minor)

You suffer a panic attack, exhibiting the physiological conditions of fear and worry: sweatiness, racing heart, trembling, shortness of breath, headaches, and so on.

Avoidance (Minor)

You are psychologically incapable with dealing with the source of the stress, or some circumstance related to it, so you avoid it—even covering your ears, curling up in a ball, or shutting off your sensors if you have to.

Dizziness (Minor)

The stress makes you light-headed and disoriented.

Echolalia (Minor)

You involuntarily repeat words and phrases spoken by others.

Fixation (Minor)

You become fixated on something that you did wrong or some circumstance that led to your stress. You obsess over it, repeating the behavior, trying to fix it, running scenarios through your head and out loud, and so on.

Hunger (Minor)

You are suddenly consumed by an irrational yet overwhelming desire to eat something—perhaps even something unusual.

Indecisiveness (Minor)

You are flustered by the cause of your stress, finding it difficult to make choices or select courses of action.

LOGORRHOEA (MINOR)
Your response to the trauma is to engage in excessive talking and babbling. You don't shut up.

NAUSEA (MINOR)
The stress sickens you, forcing you to fight down queasiness.

CHILLS (MODERATE)
Your body temperature rises, making you feel cold, and shivering sets in. You just can't get warm.

CONFUSION (MODERATE)
The trauma scrambles your concentration, making you forget what you're doing, mix up simple tasks, and falter over easy decisions.

ECHOPRAXIA (MODERATE)
You involuntarily repeat and mimic the actions of others around you.

MOOD SWINGS (MODERATE)
You lose control of your emotions. You switch from ecstasy to tears and back to rage without warning.

MUTE (MODERATE)
The trauma shocks you into speechlessness and a complete inability to effectively communicate.

NARCISSISM (MODERATE)
In the wake of the mental shock, all you can think about is yourself. You cease caring about those around you.

PANIC (MODERATE)
You are overwhelmed by fear or anxiety and immediately seek to distance yourself from the cause of the stress.

TREMORS (MODERATE)
You shake violently, making it difficult to hold things or stay still.

BLACKOUT (MAJOR)
You operate on auto-pilot in a temporary fugue state. Later, you will be incapable of recalling what happened during this period. (Synthetic shells and infomorphs may call up memory records from storage.)

FRENZY (MAJOR)
You have a major freak out over the source of the stress and attack it.

HALLUCINATIONS (MAJOR)
You see, hear, or otherwise sense things that aren't really there.

HYSTERIA (MAJOR)
You lose control, panicking over the source of the stress. This typically results in an emotional outburst of crying, laughing, or irrational fear.

IRRATIONALITY (MAJOR)
You are so jarred by the stress that your capacity for logical judgment breaks down. You are angered by imaginary offenses, hold unreasonable expectations, or otherwise accept things with unconvincing evidence.

PARALYSIS (MAJOR)
You are so shocked by the trauma that you are effectively frozen, incapable of making decisions or taking action.

PSYCHOSOMATIC CRIPPLING (MAJOR)
The trauma overwhelms you, impairing some part of your physical functioning. You suffer from an inexplicable blindness, deafness, or phantom pain, or are suddenly incapable of using a limb or other extremity.

DISORDERS
Disorders reflect more permanent madness. In this case, "permanent" does not necessarily mean forever, but the condition is ongoing until the character has received lengthy and effective psychiatric help. Disorders are inflicted whenever a character has accumulated 4 traumas. The gamemaster and player should choose a disorder that fits the situation and character.

Disorders are not always "active"—they may remain dormant until triggered by certain conditions. While it is certainly possible to act under a disorder, it represents a severe impairment to a person's ability to maintain normal relationships and do a job successfully. Disorders should not be glamorized as cute role-playing quirks. They represent the best attempts of a damaged psyche to deal with a world that has failed it in some way. Additionally, people in many habitats, particularly those in the inner system, still regard disorders as a mark of social stigma and may react negatively towards impaired characters.

Characters that acquire disorders over the course of their adventures may get rid of them in one of two ways, either through in-game attempts to treat them (p. 214) or by buying them off as they would a negative trait (p. 153).

ADDICTION
Addiction as a disorder can refer to any sort of addictive behavior focused toward a particular behavior or substance, to the point where the user is unable to function without the addiction but is also severely impaired due to the effects of the addiction. It is marked by a desire on the part of the subject to seek help or reduce the use of the addicting substance/act, but also by the subject spending large amounts of time in pursuit of

their addiction to the exclusion of other activities. This is a step up from Addiction negative trait listed on p. 148—this is much more of a crippling behavior that compensates for spending time away from the addiction. Addictions are typically related to the trauma that caused the disorder (VR or drug addictions are encouraged).

Suggested Game Effects: The addict functions in only two states: under the influence of their addiction or in withdrawal. Additionally, they spend large amounts of time away from their other responsibilities in pursuit of their addiction.

Atavism

Atavism is a disorder that mainly affects uplifts. It results in them regressing to an earlier un- or partially-uplifted state. They may exhibit behaviors more closely in line with their more animalistic forbears, or they may lose some of their uplift benefits such as the ability for abstract reasoning or speech.

Suggested Game Effects: The player and gamemaster should discuss how much of the uplift's nature is lost and adjust game penalties accordingly. It is important to note that other uplifts view atavistic uplifts with something akin to horror and will usually have nothing to do with them.

Attention Deficit Hyperactivity Disorder (ADHD)

This disorder manifests as a marked inability to focus on any one task for an extended period of time, and also an inability to notice details in most situations. Sufferers may find themselves starting multiple tasks, beginning a new one after only a cursory attempt at the prior task. ADHD suffers may also have a manic edge that manifests as confidence in their ability to get a given job done, even though they will quickly lose all interest in it.

Suggested Game Effects: Perception and related skill penalties. Increased difficulty modifiers to task actions, particularly as the action drags on.

Autophagy

This is a disorder that usually only occurs among uplifted octopi. It is a form of anxiety disorder characterized by self-cannibalism of the limbs. Subjects afflicted with autophagy will, under stress, begin to consume their limbs, if at all possible, causing themselves potentially serious harm.

Suggested Game Effects: Anytime an uplifted octopi with this disorder is placed in a stressful situation they must make a successful WIL x 3 Test or begin to consume one of their limbs.

Bipolar Disorder

Bipolar disorder is also called manic depression. It is similar to depression except for the fact that the periods of depression are interrupted by brief (a matter of days at most) periods of mania where the subject feels inexplicably "up" about everything with heightened energy and a general disregard for consequences. The depressive stages are similar in all ways to depression. The manic stages are dangerous since the subject will take risks, spend wildly, and generally engage in behavior without much in the way of forethought or potential long term consequences.

Suggested Game Effects: Similar to depression, but when manic the character must make a WIL x 3 Test to not do some action that may be potentially risky. They will also try to convince others to go along with the idea.

Body Dysmorphia

Subjects afflicted with this disorder believe that they are so unspeakably hideous that they are unable to interact with others or function normally for fear of ridicule and humiliation at their appearance. They tend to be very secretive and reluctant to seek help because they are afraid others will think them vain—or they may feel too embarrassed to do so. Ironically, BDD is often misunderstood as a vanity-driven obsession, whereas it is quite the opposite; people with BDD believe themselves to be irrevocably ugly or defective. A similar disorder, gender identity disorder, where the patient is upset with their entire sexual biology, often precipitates BDD-like feelings. Gender identity disorder is directed specifically at external sexually dimorphic features, which are in constant conflict with the patient's internal psychiatric gender.

Suggested Game Effects: Because of the nature of *Eclipse Phase* and the ability to swap out and modify a body, this is a fairly common disorder. It is suggested that players with this suffer increased or prolonged resleeving penalties since they are unable to fully adjust to the reality of their new morph.

Borderline Personality Disorder

This disorder is marked by a general inability to fully experience one's self any longer. Emotional states are variable and often marked by extremes and acting out. Simply put, the subject feels like they are losing their sense of self and seeks constant reassurance from others around them, yet is not fully able to act in an appropriate way. They may also engage in impulsive behaviors in an attempt to experience some sort of feeling. In extreme cases, there may be suicidal thoughts or attempts.

Suggested Game Effects: The character needs to be around others and will not be left alone, however they also are not quite able to relate to others in a normal way and may also take risks or make impulsive decisions.

Depression

Clinical depression is characterized by intense feelings of hopelessness and worthlessness. Subjects usually report feeling as though nothing they do matters and no one would care anyway, so they are disinclined to

attempt much in the way of anything. The character is depressed and finds it difficult to be motivated to do much of anything. Even simple acts such as eating and bathing can seem to be monumental tasks.

Suggested Game Effect: Depressives often lack the will to take any sort of action, often to the point of requiring a WIL x 3 Test to engage in sustained activity.

Fugue

The character enters into a fugue state where they display little attention to external stimuli. They will still function physiologically but refrain from speaking and stare off into the distance, unable to focus on events around them. Unlike catatonia, a person in a fugue state will walk around if lead about by a helper, but is otherwise unresponsive. The fugue state is usually a persistent state, but it can be an occasional state that is triggered by some sort of external stimuli similar to the original trauma that triggered the disorder.

Suggested Game Effects: Characters in a fugue state are totally non-responsive to most stimuli around them. They will not even defend themselves if attacked and will usually attempt to curl into a fetal position if physically assaulted.

General Anxiety Disorder (GAD)

GAD results in severe feelings of anxiety about nearly everything the character comes into contact with. Even simple tasks represent the potential for failure on a catastrophic scale and should be avoided or minimized. Additionally, negative outcomes for any action are always assumed to be the only possible outcomes.

Suggested Game Effects: A character with GAD will be almost entirely useless unless convinced otherwise, and then only for a short period of time. Another character can attempt to use a relevant social skill to coax the GAD character into doing what is required of them. If the character with the disorder fails at the task, however, all future attempts to coax them will suffer a cumulative –10 penalty.

Hypochondria

Hypochondriacs suffer from a delusion that they are sick in ways that they are not. They will create disorders that they believe they suffer from, usually to get the attention of others. Often hypochondriacs will inflict harm on themselves or even ingest substances that will aid in producing symptoms similar to the disorder they believe they have. These attempts to simulate symptoms can and will cause actual harm to hypochondriacs.

Possible Game Effects: A subject that is hypochondriac will often behave as though they are under the effects of some other disorder or physical malady. This can be consistent over time or can be different and ever changing. They will react with hostility to claims that they are faking or not actually ill.

Impulse Control Disorder

Subjects have a certain act or belief that they *must* engage in a certain activity that comes into their mind. This can be kleptomania, pyromania, sexual exhibitionism, etc. They feel a sense of building anxiety whenever they are prevented from engaging in this behavior for an extended period (usually several times a day to weekly, depending on the impulse) and will often attempt to engage in this behavior at inconvenient or inappropriate times. This is different from OCD in the sense that OCD is usually a single contained behavior that must be engaged in to reduce anxiety. Impulse control disorder is a variety of behaviors and can be virtually any sort of highly inappropriate action.

Suggested Game Effects: Similar to OCD, if the player doesn't engage in the behavior they will grow increasingly disturbed and suffer penalties to all actions until they are able to engage in the compulsion that alleviates their anxiety.

Insomnia

Insomniacs find themselves unable to sleep, or unable to sleep for an extended period of time. This is most often due to anxiety about their lives or as a result of depression and the accompanying negative thought patterns. This is not the sort of sleeplessness that is brought about as a result of normal stress but rather a near total inability to find rest in sleep when it is desired. Insomniacs may find themselves nodding off at inopportune times, but never for long, and never enough to gain any restful sleep. As a result, they are frequently lethargic and inattentive as their lack of sleep robs them of their edge and eventually any semblance of alertness. Additionally, insomniacs are frequently irritable due to being on edge and unable to rest.

Suggested Game Effects: Due to the lack of meaningful sleep, insomniacs should suffer from blanket penalties to perception related tasks or anything requiring concentration or prolonged fine motor abilities.

Megalomania

A megalomaniac believes themselves to be the single most important person in the universe. Nothing is more important than the megalomaniac and everything around them must be done according to their whim. Failure to comply with the dictates of a megalomaniac can often result in rages or actual physical assaults by the subject.

Suggested Game Effects: A character that has megalomania will demand attention and has difficulty in nearly any social situation. Additionally, they may be provoked to violence if they think they are being slighted.

Multiple Personality Disorder

This is the development of a separate, distinct personality from the original or control personality. The personalities may or may not be aware of each other and "conscious" during the actions of the other personality. Usually there is some sort of trigger that results in the emergence of the non-control personality. Most subjects have only a single extra personality, but it is not unheard of to have several personalities. It is important to note that these are distinct individual personalities and not just crude caricatures of the Dr. Jekyll/Mr. Hyde sort. Each personality sees itself as a distinct person with their own wants, needs, and motivations. Additionally, they are usually unaware of the experiences of the others, though there is some basic information sharing (such as language and core skill sets).

Suggested Game Effects: When the player is under the effects of another personality, they should be treated as an NPC. In some rare cases the player and the gamemaster can work out the second personality and allow the player to roleplay this. This does not however constitute an entire new character that can be "turned on" at will.

Obsessive Compulsive Disorder (OCD)

Subjects with OCD are marked by intrusive or inappropriate thoughts or impulses that cause acute anxiety if a particular obsession or compulsion is not engaged in to alleviate them. These obsessions and compulsions can be nearly any sort of behavior that must be immediately engaged in to keep the rising anxiety at bay. Players and gamemasters are encouraged to come up with a behavior that is suitable. Examples of common behaviors include repetitive tics (touching every finger of each hand to another part of the body, tapping the right foot twenty times), pathological behaviors such as gambling or eating, or a mental ritual that must be completed (reciting a book passage).

Suggested Game Effects: If the player doesn't engage in the behavior they will grow increasingly disturbed and suffer penalties to all actions until they are able to engage in the compulsion that alleviates their anxiety.

Post Traumatic Stress Disorder (PTSD)

PTSD occurs as a result of being exposed to either a single incident or a series of incidents where the sufferer had their own life, or saw the lives of others, threatened with death. These incidents are often marked by an inability on the part of the victim, either real or perceived, to do anything to alter the outcomes. As a result, they develop an acute anxiety and fixation on these incidents to the point where they lose sleep, become irritated or easily angered, or are depressed over feelings that they lack control in their own lives.

Suggested Game Effects: Penalties to task actions, also treat situations similar to the initial episodes that caused the disorder as a phobia.

Schizophrenia

While schizophrenia is generally acknowledged as a genetic disorder that has an onset in early adulthood, it also seems to develop in a number of egos that undergo frequent morph changes. It has been theorized that this is due to some sort of repetitive error in the download process. Regardless, it remains a rare, yet persistent danger of dying and being brought back. Schizophrenia is a psychotic disorder where the subject loses their ability to discern reality from unreality. This can involve delusions, hallucinations (often in support of the delusions), and fragmented or disorganized speech. The subject will not be aware of these behaviors and will perceive themselves as functioning normally, often to the point of becoming paranoid that others are somehow involved in a grand deception.

Suggested Game Effects: Schizophrenia represents a total break from reality. A character that is schizophrenic may see and hear things and act on those delusions and hallucinations while seeing attempts by their friends to stop or explain to them as part of a wider conspiracy. Adding to this is the difficulty of communicating coherently. Players that have become schizophrenic are only marginally functional and only for short periods of time until they have the disorder treated.

Stressful Situations

The universe of *Eclipse Phase* is ripe with experiences that might rattle a character's sanity. Some of these are as mundane and human as extreme violence, extended isolation, or helplessness. Others are less common, but even more terrifying: encountering alien species, infection by the Exsurgent virus, or being sleeved inside a non-human morph.

Willpower Stress Tests

Whenever a character encounters a situation that might impact their ego's psyche, the gamemaster may call for a (Willpower x 3) Test. This test determines if the character is able to cope with the unnerving situation or if the experience scars their mental landscape. If they succeed, the character is shaken but otherwise unaffected. If they fail, they suffer stress damage (and possibly trauma) as appropriate to the situation. A list of stress-inducing scenarios and suggested SVs are listed on the Stressful Experiences table, p. 215. The gamemaster should use these as a guideline, modifying them as appropriate to the situation at hand.

Note that some incidents may be so horrific that a modifier is applied to the character's (Willpower x 3) Test.

Hardening

The more you are exposed to horrible or terrifying things, the less scary they become. After repeated exposure, you become hardened to such things, able to shake them off without effect.

STRESSFUL EXPERIENCES

SITUATION	SV
Failing spectacularly in pursuit of a motivational goal	1d10 ÷ 2 (round down)
Helplessness	1d10 ÷ 2 (round down)
Betrayal by a trusted friend	1d10 ÷ 2 (round down)
Extended isolation	1d10 ÷ 2 (round down)
Extreme violence (viewing)	1d10 ÷ 2 (round down)
Extreme violence (committing)	1d10
Awareness that your death is imminent	1d10
Experiencing someone's death via XP	1d10
Losing a loved one	1d10 ÷ 2 (round down)
Watching a loved one die	1d10 + 2
Being responsible for the death of a loved one	1d10 + 5
Encountering a gruesome murder scene	1d10
Torture (viewing)	1d10 + 2
Torture (moderate suffering)	2d10 + 3
Torture (severe suffering)	3d10 + 5
Encountering aliens (non-sentient)	1d10 ÷ 2 (round down)
Encountering aliens (sentient)	1d10
Encountering hostile aliens	1d10 + 3
Encountering highly-advanced technology	1d10 ÷ 2 (round down)
Encountering Exsurgent-modified technology	1d10 ÷ 2 (round down)
Encountering Exsurgent-infected transhumans	1d10
Encountering Exsurgent life forms	1d10 + 3
Exsurgent virus infection	Varies; see p. 366
Witnessing psi-epsilon sleights	1d10 + 2

Every time you succeed in a Willpower Test to avoid taking stress from a particular source, take note. If you successfully resist such a situation 5 times, you become effectively immune to taking stress from that source.

The drawback to hardening yourself to such situations is that you grow detached and callous. In order to protect yourself, you have learned to cut off your emotions—but it is such emotions that make you human. You have erected mental walls that will affect your empathy and ability to relate to others.

Each time you harden yourself to one source of stress, your maximum Moxie stat is reduced by 1. Psychotherapy may be used to overcome such hardening, in the same way a disorder is treated.

MENTAL HEALING AND PSYCHOTHERAPY

Stress is trickier to heal than physical damage. There are no nano-treatments or quick fix options (other than killing yourself and reverting to a non-stressed backup). The options for recuperating are simply natural healing over time, psychotherapy, or psychosurgery.

PSYCHOTHERAPY CARE

Characters with an appropriate skill—Medicine: Psychiatry, Academics: Psychology, or Professional: Psychotherapy—can assist a character suffering mental stress or trauma with psychotherapy. This treatment is a long-term process, involving methods such as psychoanalysis, counseling, roleplaying, relationship-building, hypnotherapy, behavioral modification, drugs, medical treatments, and even psychosurgery (p. 229). AIs skilled in psychotherapy are also available.

Psychotherapy is a task action, with a timeframe of 1 hour per point of stress, 8 hours per trauma, and 40 hours per disorder. Note that this only counts the time actually spent in psychotherapy with a skilled professional. After each psychotherapy session, make a test to see if the session was successful. Successful psychosurgery adds a +30 modifier to this test; at the gamemaster's discretion, other modifiers may apply. Likewise, each disorder the character holds inflicts a –10 modifier. Traumas may not be healed until all stress is eliminated.

When a trauma is healed, the derangement associated with that trauma is eliminated or downgraded. Disorders are treated separately from the trauma that caused them, and may only be treated when all other traumas are removed.

Gamemaster and players are encouraged to roleplay a character's suffering and relief from traumas and disorders. Each is an experience that makes a profound impact on a character's personality and psyche. The process of treatment may also change them, so in the end they may be a transformed from the person they once were. Even if treated, the scars are likely to remain for some time to come. According to some opinions, disorders are never truly eradicated, they are just eased into submission ... where they may linger beneath the surface, waiting for some trauma to come along.

NATURAL HEALING

Characters who eschew psychotherapy can hopefully work out the problems in their head on their own over time. For every month that passes without accruing new stress, the character may make a WIL x 3 Test. If successful, they heal 1d10 points of stress or 1 trauma (all stress must be healed first). Disorders are even more difficult to heal, requiring 3 months without stress or trauma, and even then only being eliminated with a successful WIL Test. As a result, disorders can linger for years until resolved with actual psychotherapy.

MIND HACKS

8

PSI GAME MECHANICS

If a character has the Psi trait, they can wield psi powers. ■ p. 220

PSI-GAMMA SLIGHTS

Psi-gamma sleights analyze and influence the functions of other biological minds. ■ **p. 225**

PSYCHOSURGERY

Psychosurgery can be used to control behavior, implant skills, interrogate, torture, and more. ■ **pp. 229-231**

PSI-CHI SLEIGHTS

Psi-chi sleights are abilities that enhance an async's perception and cognition. ■ **p. 223**

> **Desdemona:** Glad to have you back. I hope you had a pleasant farcast from Pelion and don't feel too much lack. While you were out, a message from Aeneas with a precis on psi, extracted from the infomorph backup of psigeneticist Daborva (StellInt, Dipole Research Station on Ganymede), was rerouted for distribution to your Firewall node.

PSI

Coined by the biologist Bertold P. Wiesner, "psi" was originally an umbrella term used to describe a number of so-called "psychic" abilities and other speculative paranormal phenomena such as telepathy and extra-sensory perception. While the term was used extensively in the field of parapsychology and pop culture in the twentieth and early twenty-first centuries, the study of psi was largely considered a pseudoscience with flawed methodologies and gradually lost funding and support.

During the Fall, however, repeated rumors and accounts of unexplained phenomenon drew the attention of scientists, military leaders, and singularity seekers alike. Numerous nanovirii had been unleashed upon transhumanity, racing through populations and transforming as they spread. Some inflicted only minor biological or mental changes and impairments, but many were vicious and deadly. The most feared variants, however, were those that Firewall has come to label as the Exsurgent virus—a transformative nano-plague that mutates its victims and subverts them to its will. The Exsurgent virus was also observed to radically modify the subject's neural patterns and mental state, affecting synaptic arrangement and even modulating synaptic currents. These changes alter and enhance the victim's cognition and seemed to endow an ability to sense and even affect the minds of others from a short distance—an ability dubbed "psi" as the causal factors continue to mystify us. The existence and nature of this phenomenon remains carefully concealed and under wraps in controlled habitats, so as not to trigger widespread panic. Among anarchist and other open communities, knowledge of psi is more widespread, but details are vague and reports are generally greeted with skepticism.

The Exsurgent virus is exceptionally mutable and adaptive, however, and two argonaut researchers who were aware of and studying it soon made an interesting discovery. One variant strain of the virus was found that endowed the subject with exceptional mental abilities without engaging the transformative process of the other strains. Though infection still has other drawbacks, Firewall and other agencies have come to regard this strain as "safe" in the sense that the subject does not transmogrify into something else and their general personality remains intact. Intrigued that this avenue of inquiry might lead to a way to nullify the effects of other Exsurgent strains, Firewall and others continue to experiment with the strain with the cooperation of willing test subjects (or according to some reports, unwilling victims in the case of certain authorities and hypercorps).

THE NATURE OF PSI

Labeled the Watts-MacLeod strain after the researchers who isolated it, further study has gained insight into the effect this virus has on transhuman brains. Careful analysis of infected subjects discovered that their altered synapses generate a modulated brainwave pattern that is extremely difficult to detect. Those "in-the-know" have come to refer to these asynchronous brainwaves as "psi waves," fitting with the Greek letter designation of other brainwaves (alpha, beta, delta, gamma, theta). Likewise, affected individuals are known as "asyncs."

Exploration of the explicit causal factors behind psi waves remains stymied. Theories regarding extraordinary mental processes with the ability to change quantum states have been explored but remain frustratingly inconclusive. Neuroimaging and mapping have enabled scientists to pinpoint structures within the brain, neural activity, and perturbations in the brain's bioelectric field that are associated with psi processes, but attempts to duplicate these features in non-infected brains have resulted in failure or worse. Attempts to identify asyncs by psi brainwave patterns are not even assured of success. Numerous dead ends have prompted many researchers to postulate that the mechanics underlying psi are simply too strange and too far beyond transhumanity's understanding of physical sciences—perhaps reinforcing theories that the Exsurgent virus is in fact of alien origin.

One leading speculation is that the changes wrought in the mind by infection actually entangle some of the neural sub-systems, enable some sort of quantum field within the brain, or possibly create Bose-Einstein condensates within the brain, allowing for quantum computation or perhaps hypercomputation. This enhances the async's mental capabilities to the level provided by modern implants and neuro-mods—and sometimes beyond. This does not explain the capabilities of other asyncs, however, especially those used to read or affect other biological minds. These abilities seem to involve reading brain waves from a short range or affecting another's mind via direct physical contact with the target's bio-electric fields. Of course I can only speculate in accordance with what Firewall has uncovered—it is quite possible that certain hypercorps or other factions have made further breakthroughs, but are keeping the information to themselves.

The initiation and use of psi talents is generally understood to take place on a subconscious level, meaning that the async is not actively aware of the fundamental processes that fuel the psi-waves. Training in certain skills, however, allows an async to focus on certain tasks and psi abilities. These are called "sleights:" mnemonic or cognitive algorithms of psi use rooted in the async's ego.

The percentage of the transhuman population believed to have contracted the Watts-MacLeod strain remains statistically insignificant—less than .001% of the population. The vast number of asyncs have been recruited by various agencies, "disappeared" for study, or simply eliminated as a potential threat.

Ten years after the Fall, Firewall and other agencies have come to regard Watts-MacLeod infection as comparatively safe, though we remain quite wary of unforeseen side effects or other hidden dangers. Most of us engaged in studying the phenomenon now consider asyncs to be useful as a tool for fighting the Exsurgent virus and other threats—despite the protests of those who are convinced that asyncs are not in control of their own minds and are not to be trusted. As of yet we have encountered no cases of Watts-MacLeod infection that have inflicted anything other than psi abilities, though there seems to be an increased risk for asyncs to succumb to other Exsurgent strains should they encounter them. There are other risks associated with Watts-MacLeod infection, such as extreme fatigue and even lethal biofeedback resulting from extensive use of psi sleights and a statistically likelihood of developing mental disorders due to the increased mental stress placed on the async's mind. ✤

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

ÆTHER JABBER: ASYNCS

Start Æther Jabber
Active Members: 2

Sorry to bother you, but my muse just alerted me to this excerpt that was sent around to my Firewall team. Is this for real? I've heard the talk about psi before—enough to be convinced that there's something to it, even if we can't explain it—but this bit about variant Exsurgent infection is too much. Are we seriously going to be working with someone who's a known carrier? And can you shed any more light on how asyncs do their mojo? I'm worried now. And since you are connected to the Medeans, I thought I'd take the chance and ask.

Well, as to the Medeans ... that's history. I am back on the freelancing market right now. But no problem, I'll try and explain. I know it is not easy to grasp.

Shiny.

Yes, Srit was once infected with a strain of the Exsurgent virus, probably on Mars near the end of the Fall. I say "was" because the Watts-MacLeod strain seems to go dormant shortly after it finishes rewiring the victim's brain; the plague nanobots die off and get flushed out of the system, unlike other Exsurgent strains, which continue to stick around and transform the subject. At least, that's the dominant theory—I've also seen some speculation that async minds might be modified so that they continue to produce bio-nanobots that linger in the brain, though what function these serve remains unclear. However, the prevailing opinion among our best neuroscientists is that people like Srit are safe and non-infectious once the virus has run its course. I'll even go a bit further and say that prevailing opinion is that they can be trusted, assuming they don't catch another infection ... which they unfortunately seem to be a bit prone too. Not everyone agrees of course, but we have an abundance of paranoia in our circles. So far, we haven't seen any evidence that any of our asyncs have been turned by that initial infection, and the utility and usefulness of having psi-actives on our side has simply been too important to push aside.

All right. I can't say that I'll trust her, but I'll try and give her the benefit of the doubt. I'll be damned if I'm going to trust an async that's not vouched for by Firewall though—who knows what the hell a hypercorp like Skinthetic might be cooking up in their black labs.

That seems like a wise choice.

Maybe you can put my mind at ease by explaining to me in a bit more detail how Watts-MacLeod infection occurs.

Well, like the other Exsurgent strains you are unfortunately familiar with, the primary transmission vector is a nanovirus, but we speculate that it may also be transmitted as a digital computer virus or possibly even as a basilisk hack. The physical plague form is spread by highly-advanced techno-organic nanobots that infect a biomorph and use bio-mimicry mechanisms to pass as normal cells and penetrate the blood-brain barrier and central nervous system. The nanobots are several steps beyond anything our technology can produce, are very difficult to detect, and can overwhelm most defensive countermeasures. Infected minds are essentially rewired, and these changes will be copied when the ego is uploaded. Synthmorphs and infomorphs remain immune to this nano-infection, but they are theoretically vulnerable to other transmission vectors.

I've heard that synthmorphs are effectively invulnerable to psi as well. This true?

Yes. As far as we can tell, async abilities only effect biological minds—either their own or others. And they can only read/affect others from a very short distance, requiring physical contact in most cases. The half-biological minds of pods are also vulnerable, though to a lesser extent. Likewise, asyncs need a biological brain to use their abilities—they can't use their psi if sleeved in a synthmorph and have difficulty in a pod.

Interesting. So, I have to ask again—you're sure she's safe? I've heard that some of these asyncs can be real nut-jobs.

I've heard from several of these asyncs directly. The fact is, infection rewrites their brain, and some of them came out the other side feeling fundamentally altered. Either they felt like a different person, or they felt like there was something new that was part of them—something that they didn't necessarily like. One described it as presence, another as a black void that whispered at them. Yet another described it as giving a personality to their unconscious mind, which only made the gulf between unconscious and conscious mind all the more intimidating. Some of them preferred to suicide and revert to a pre-infection backup. While they may be more prone to cracking up as a result, I haven't ever heard one talk about their abilities as something they couldn't control.

Well, that's fucking cheery. There's nothing else we have on how this psi stuff actually works?

Unfortunately, we don't. Even the Prometheans haven't been much help. There are theories, of course, but nothing that we've been able to verify with rigorous experimentation. It doesn't help that the factions that are aware of psi's existence don't exactly compare notes—they're all too busy looking into ways to weaponize it and use it against each other, instead of figuring out how to use it for the benefit of transhumanity.

Of course. The TITANs didn't get us, but we can still get ourselves. It worries me that the best we've come up with is nothing.

It's important to keep perspective. Transhumanity has come quite a distance and made some impressive accomplishments, but our understanding of the universe is still in its infancy. What we may be facing here is something concocted by an intelligence so far beyond our own that we are but insignificant insects in comparison. It likely has a grasp on the universe that is simply beyond our ability to understand. We shouldn't be cocky and think that we can decipher any mystery thrown at us ... we should instead be very, very afraid.

Though neuroscience has ascended to impressive pinnacles, allowing minds to be thoroughly scanned, mapped, and emulated as software, the transhuman brain remains a place that is complicated, not fully understood, and thoroughly messy. Despite a prevalence of neural modifications, meddling with the seat of consciousness remains a tricky and hazardous procedure. Nevertheless, psychosurgery—editing the mind as software—remains common and widespread, sometimes with unexpected results.

Likewise, even as the knowledge of neuroscientists grows on an exponential basis, some are discovering that minds are far more mysterious than they had ever imagined. During the Fall, scattered reports of "anomalous activity" by individuals infected by one of the numerous circulating nanoplagues were discounted as fear and paranoia, but subsequent investigations by black budget labs has proven otherwise. Now, top-level confidential networks whisper that this infection inflicts intricate changes in the victim's neural network that imbue them with strange and inexplicable abilities. The exact mechanism and nature of these abilities remains unexplained and outside the grasp of modern transhuman science. Given the evidence of a new brainwave type and the paranormal nature of this phenomenon, it is loosely referred to as "psi."

PSI

In *Eclipse Phase*, psi is considered a special cognitive condition resulting from infection by the mutant—and hopefully otherwise benign—Watts-Macleod strain of the Exsurgent virus (p. 367). This plague modifies the victim's mind, conferring special abilities. These abilities are inherent to the brain's architecture and are copied when the mind is uploaded, allowing the character to retain their psi abilities when changing from morph to morph.

PREREQUISITES

To wield psi, a character must acquire the Psi trait (p. 147) during character creation. It is theoretically also possible to acquire the use of psi in game via infection by the Watts-MacLeod strain; see *The Exsurgent Virus,* p. 362.

Psi ability is considered an innate ability of the ego and not a biological or genetic predisposition of the morph. While psi researchers do not understand how it is possible to transfer this ability via uploads, backups, and farcasting, it has been speculated that all components of an async's ego are entangled on a quantum level, or that they possess the ability to entangle themselves or form a unique conformation or alignment as a whole even after they have been copied, up-, or downloaded. This speculated entanglement process is also thought to be the origin of the impairment that asyncs experience when adapting to a new morph (see below).

MORPHS AND PSI

Asyncs require a biological brain to draw on their abilities (the brains of uplifted animals count). An async whose ego is downloaded into an infomorph or fully computerized brain (synthmorphs) has no access to their abilities as long they remain in that morph.

Asyncs inhabiting a pod morph may use psi, but their abilities are restricted as pod brains are only partly biological. Pod-morphed asyncs suffer a –30 modifier on all tests involving the use of psi sleights and the impact from using sleights would be doubled.

MORPH ACCLIMATIZATION

Async minds undergo extra difficulty adjusting to new morphs. For 1 day after the character has resleeved, they will suffer the effects of a single derangement (p. 210). The gamemaster and player should choose a derangement appropriate to the character and story. Minor derangements are recommended, but at the gamemaster's discretion moderate or major derangements may be applied. No trauma is inflicted with this derangement.

MORPH FEVER

Asyncs find it irritating and traumatizing to endure life as an infomorph, pod, or synthmorph for long periods of time. This phenomenon, known as *morph fever*, might cause temporary derangements and trauma to the asyncs' ego, possibly even to the grade of permanent disorders. If stored or held captive as an active infomorph (i.e. not in virtual stasis), the async might go insane if not psychologically aided by some sort of anodyne program or supporting person during storage.

In game terms, asyncs take 1d10 ÷ 2 (round up) points of mental stress damage per month they stay in a pod, synthmorph or infomorph form without psychological assistance by a psychiatrist, software, or muse.

PSI DRAWBACKS

There are several drawbacks to psi ability:

- The variant Exsurgent strain that endows psi ability rewires the character's brain. An unfortunate side effect to this change is that asyncs acquire a vulnerability to mental stress. Reduce the async's Trauma Threshold by 1.
- The mental instability that accompanies psi infection also tends to unhinge the character's mind. Asyncs acquires one Mental Disorder negative trait (p. 150) for each level they have of the Psi trait

without receiving any bonus CP. The gamemaster and player should agree on a disorder appropriate to the character. This disorder may be treated over time, according to normal rules (see *Mental Healing and Psychotherapy,* p. 215).

- Characters with the Psi trait are also vulnerable to infection by other strains of the Exsurgent virus. The character suffers a –20 modifier when resisting Exsurgent infection (p. 362).
- Critical failures when using psi tend to stress the async's mind. Each time a critical failure is rolled when making a sleight-related test, the async suffers a temporary brain seizure. They suffer a –30 modifier and are incapable of acting until the end of the next Action Turn. They must also succeed in a WIL + COG Test or fall down.

PSI SKILLS AND SLEIGHTS

Transhuman psi users can manipulate their egos and otherwise create effects that can often be neither matched nor mimicked by technological means. To use these abilities, they train their mental processes and practice cognitive algorithms called sleights, which they can subconsciously recall and use as necessary. Sleights fall into two categories: psi-chi (cognitive enhancements, p. 223) and psi-gamma (brainwave reading and manipulation, p. 225). Psi-chi sleights are available to anyone with the Psi trait (p. 147), but psi-gamma sleights are only available to characters with the Psi trait at Level 2. In order to use these sleights, the async must be skilled in the Control (p. 178), Psi Assault (p. 183), and/or Sense skills (p. 184), as appropriate to each sleight.

ROLEPLAYING ASYNCS

Any player who chooses to play an async should keep the origin of their abilities in mind: Watts-MacLeod strain infection. The character may not be aware of this source, but they undoubtedly know that they underwent some sort of transformation and have talents that no one else does. If unaware of the infection, they have likely learned to keep their abilities secret lest they be ridiculed, attacked, or whisked away to some secret testing program. Learning the truth about their nature could even be the starting point of a campaign and/or their introduction to Firewall. If they know the truth, however, the character must live with the fact that they are the victim of a nanoplague likely spread by the TITANs that may or may not lead to complications, side effects, or other unexpected revelations in their future.

Gamemasters and players should make an effort to explore the nature of this infection and how the character perceives it. As noted previously, asyncs are often profoundly-changed people. The invasive and alien aspect of their abilities should not be lost on them. For example, an async might conceive of their psi talents as a sort of parasitic entity, living off their sleights, or they might feel that using these powers puts them in touch with some sort of fundamental substrate of the universe that is weird and terrifying. Alternately, they could feel as if their personality was melded with something different, something that doesn't belong. Each async is likely to view their situation differently, and none of them pleasantly.

USING PSI

Using psi—i.e., drawing on a certain sleight to procure some kind of effect—does not always require a test. Each sleight description details how the power is used.

ACTIVE PSI

Active psi sleights must be "activated" to be used. These sleights usually require a skill test. Sleights that target other sentient beings or life forms are always Opposed Tests, while others are handled as Success Tests. The level of concentration required to use these sleights varies, and so may call for a Quick, Complex, or Task Action. Active sleights also cause strain (p. 223) to the async. Most psi-gamma sleights fall into this category.

PASSIVE PSI

Passive psi sleights encompasses abilities that are considered automatically active and subconscious. They rarely require an action to be activated and require no effort or strain by the psi user. Passive sleights typically add bonuses to various activities or allow access to certain abilities rather than calling for some kind of skill test. Most psi-chi sleights fall into this category.

PSI RANGE

Sleights have a Range of either Self, Touch, or Close.

Self: These sleights only affect the async.

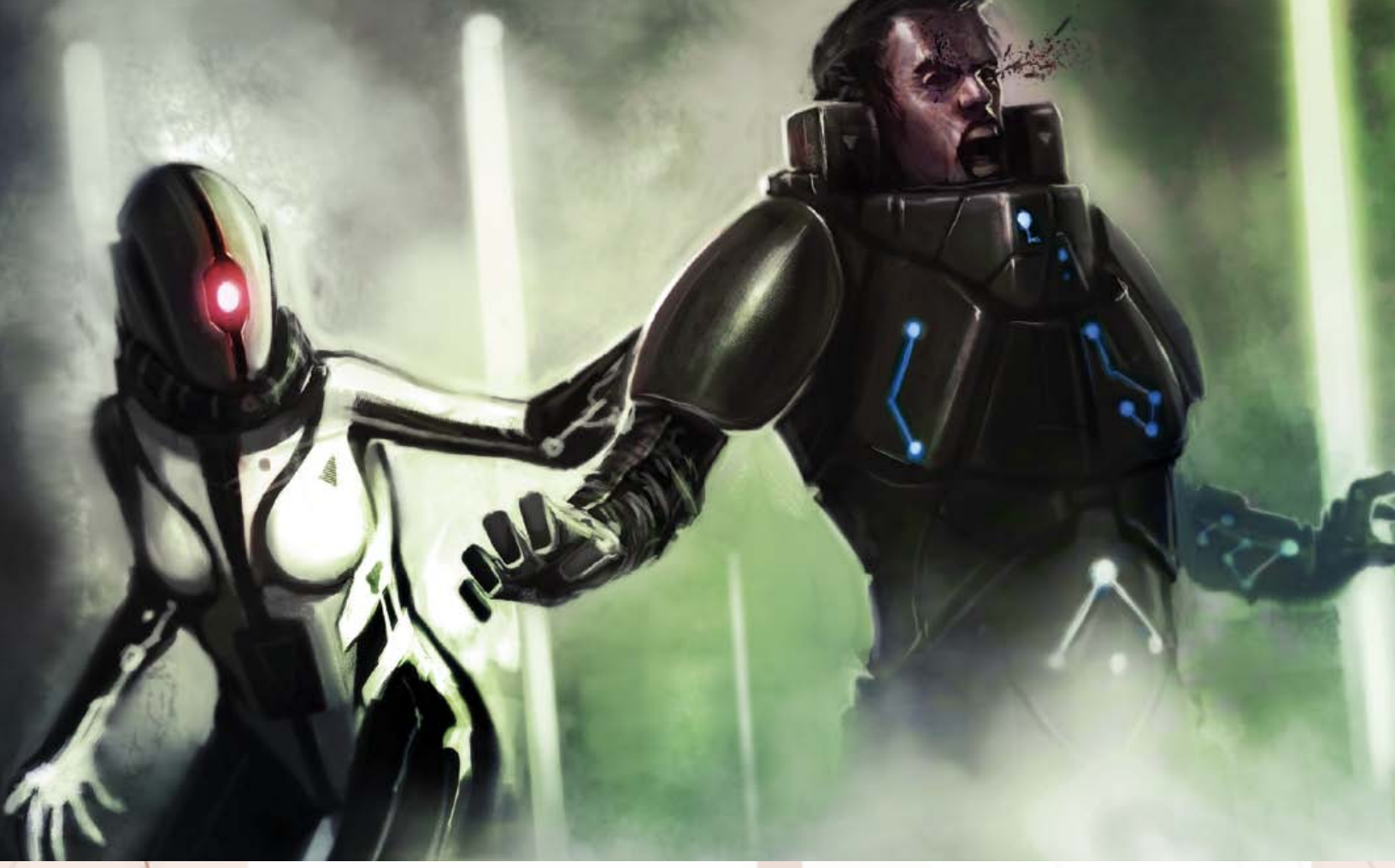
Touch: Sleights with a Touch range may be used against other biological life, but the async must have physical contact with the target. If the target avoids being touched, this requires a successful melee attack, applying the touch-only +20 modifier. This attack does not cause damage, and is considered part of the same action as the psi use.

Close: Close sleights involve interaction with other biological life from a short distance. The optimal distance is within 5 meters. For each meter beyond that, apply a –10 modifier to the test.

Psi vs. Psi: Due to the nature of psi, sleights are more effective against other psi users. Sleights with a range of Touch may be used from a Close range against another async. Likewise, a sleight with a Close range may be used at twice the normal distance (10 meters) when wielded on another async.

TARGETING

Synthmorphs, bots, and vehicles may not be targeted by psi sleights, as they lack biological brains. Pods—with brains that are half biological and half computer—are less susceptible and receive a +30 modifier



when defending against psi use. Note that infomorphs may never be targeted by psi sleights as psi is not effective within the mesh or simulspace.

Multiple Targets: An async may target more than one character with a sleight with the same action, as long as each of them can be targeted via the rules above. The psi character only rolls once, with each of the defending characters making their Opposed Tests against that roll. The psi character suffers strain (p. 223) for each target, however, meaning that using psi on multiple targets can be extremely dangerous.

Animals and Less Complex Life Forms: Psi works against any living creature with a brain and/or nervous system. Against partially-sentient and partially-uplifted animals, it suffers a –20 modifier and increases strain by +1. Against non-sentient animals, it suffers a –30 modifier and increases strain by +3. It has no effect on or against less complex life forms like plants, algae, bacteria, etc.

Factors and Aliens: At the gamemaster's discretion, psi sleights may not work on alien creatures at all, depending on their physiology and neurology. If it does work, it is likely to suffer at least a –20 modifier and +1 strain.

Opposed Tests

Psi that is used against another character is resisted with an Opposed Test. Defending characters resist with WIL x 2. Willing characters may choose not to resist. Unconscious or sleeping characters cannot resist.

If the psi-wielding character succeeds and the defender fails, the sleight affects the target. If the psi user fails, the defender is unscathed. If both parties succeed in their tests, compare their dice rolls. If the psi user's roll is higher, the sleight bypasses the defender's mental block and affects the target; otherwise, the sleight fails to affect the defender's ego.

Target Awareness

The target of a psi sleight is aware they are being targeted any time they succeed on their half of the Opposed Test (regardless on whether the async rolls higher or not). Note that awareness does not necessarily mean that the target understands that psi abilities are being used on them, especially as most people in *Eclipse Phase* are unaware of psi's existence. Instead, the target is simply likely to understand that some outside influence is at work, or that something strange is happening. They may suspect that they have been drugged or are under the influence of some strange technology.

Targets who fail their roll remain unaware.

Psi Full Defense

Like full defense in physical combat (p. 198), a defender may spend a Complex Action to rally and concentrate their mental defenses, gaining a +30 modifier to their defense test against psi use until their next Action Phase.

CRITICALS

If the defender rolls a critical success, the character attempting to wield psi is temporarily locked out of the target's mind. The psi user may not target that character with sleights until an appropriate "reset" period has passed, determined by the gamemaster.

If the async rolls a critical failure, they suffer temporary incapacitation as their mind dysfunctions in some harsh and distressing ways (see *Psi Drawbacks*, p. 221).

If a psi user rolls a critical success against a defender, or the defender rolls a critical failure, double the potency of the sleight's effect. In the case of psi attacks, the DV can be doubled or mental armor can be bypassed. Alternately, when using Psi Assault (p. 183), the targeted character may be in danger of infection by the Watts-Macleod strain (p. 362).

MENTAL ARMOR

The Psi Shield sleight (p. 228) provides mental armor, a form of neural hardening against psi-based attacks. Like physical armor, this mental armor reduces the amount of damage inflicted by a psi assault.

DURATION

Psi sleights have one of four durations: *constant, instant, temporary,* or *sustained*.

Constant: Constant sleights are always "on."

Instant: Instant sleights take effect only in the Action Phase in which they are used.

Temporary: Temporary sleights last for a limited duration with no extra effort from the async. The temporary duration is determined by the async's WIL ÷ 5 (round up) and is measured in either Action Turns or minutes, as noted. Strain for the sleight is applied immediately when used, not at the end of the duration.

Sustained: Sustained sleights require active effort to maintain for as long as the async wants to keep it active. Sustaining a sleight requires concentration, and so the async suffers a –10 modifier to all other skill tests while the sleight is sustained. The async must also stay within the range appropriate to the sleight, otherwise the sleight immediately ends. More than one sleight may be sustained at a time, with a cumulative modifier. Strain for the sleight is applied immediately when used, not at the end of the duration. At the gamemaster's discretion, sleights that are sustained for long periods may incur additional strain.

STRAIN

The use of psi is physically (and sometimes psychologically) draining to a psi user. This phenomenon is known as strain, and manifests as fatigue, exhaustion, pain, neural overload, cardiovascular stress, and adynamia (loss of vigor). Though strain has only rarely been known to actually kill an async, the use of too much active psi can be life-threatening in some circumstances.

In game terms, every active sleight has a Strain Value of 1d10 ÷ 2 (round up) DV. Every active sleight lists a Strain Value Modifier that modifies this amount. For example, a sleights with a Strain Value Modifier of –1 inflicts (1d10 ÷ 2) –1 DV.

If the damage points suffered from strain exceed the character's Wound Threshold, they may inflict a wound just like other damage (see *Wounds*, p. 207).

EXAMPLE

Matric is investigating a disappearance, so he decides to use his Qualia sleight to boost his Intuition while hunting for clues. That psi-chi sleight takes only a Quick Action to initiate and requires no test. Matric's WIL is 25, so the duration of this temporary sleight is 5 Action Turns (25 ÷ 5 = 5). The sleight's Strain modifier is –1, so he is facing (1d10 ÷ 2) –1 DV. He rolls a 1, so he takes no strain at all!

Later on, Matric finds himself in a life-or-death struggle with a kidnapper. Lucky for Matric, they're in a melee, so he's close enough to try and touch his opponent. On his Action Phase, he makes an Unarmed Combat Test with a +20 modifier (for a touch-only attack) and succeeds. This allows him to try and use his Psychic Stab sleight. He rolls his Psi Assault of 57 against the target's WIL x 2 (32). His target is in a worker pod morph, however, which is less susceptible to psi, so he receives a +30 modifier (32 + 30 = 62). Matric rolls a 32 and the worker pod a 64—Matric wins! For damage, he rolls 1d10 + (WIL ÷ 10). His WIL is 25, so that's 1d10 + 3. He rolls a score a 7 and inflicts 10 (7 + 3) points of damage. The worker pod screams in pain, suffering a wound from the psychic assault.

PSI-CHI SLEIGHTS

Psi-chi sleights are async abilities that speed up cognitive informatics (internal information processing) and enhance the user's perception and cognition.

AMBIENCE SENSE

PSI TYPE:	Passive	ACTION:	Automatic
RANGE:	Self	DURATION:	Constant

This sleight provides the async with an instinctive sense about an area and any potential threats nearby. The async receives a +10 modifier to all Investigation, Perception, Scrounging, and Surprise Tests.

COGNITIVE BOOST

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Self	DURATION:	Temp (Action Turns)
STRAIN MOD:	–1		

The async can temporarily elevate their cognitive performance. In game terms, Cognition is raised by 5 for the chosen duration. This boost to Cognition also raises the rating of skills linked to that aptitude.

DOWNTIME

PSI TYPE: Active | ACTION: Task (min. 4 hours)
RANGE: Self | DURATION: Sustained
STRAIN MOD: 0

This sleight provides the async with the ability to send the mind into a fugue-state regenerative downtime, during which the character's psyche is repaired. The async must enter the downtime for at least 4 hours; every 4 hours of downtime heals 1 point of stress damage. Traumas, derangements, and disorders are unaffected by this sleight. For all sensory purposes, the async is catatonic during downtime, completely oblivious to the outside world. Only severe disturbances or physical shock (such as being wounded or hit by a shock weapon) will bring the async out of it.

EMOTION CONTROL

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

Emotion Control gives the async tight control over their emotional states. Unwanted emotions can be blocked out and others embraced. This has the benefit of protecting the async from emotional manipulation, such as the Drive Emotion sleight or Intimidation skill tests. The async receives a +30 modifier when defending against such tests.

ENHANCED CREATIVITY

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

An async with Enhanced Creativity is more imaginative and more inclined to think outside the box. Apply a +20 modifier to any tests where creativity plays a major role. This level of ingenuity can sometimes seem strange and different, manifesting in odd or creepy ways, especially with artwork.

FILTER

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

Filter allows the async to filter out out distractions and eliminate negative situational modifiers from distraction, up to the gamemaster's discretion.

GROK

PSI TYPE: Active | ACTION: Complex
RANGE: Self | DURATION: Instant
STRAIN MOD: –1

By using the Grok sleight, the async is able to intuitively understand how any unfamiliar object, vehicle, or device is used simply by looking at and handling it. If the character succeeds in a COG x 2 Test, they achieve a basic ability to use the object, vehicle, or device, no matter how alien or bizarre. This sleight does not provide any understanding of the principles or technologies involved—the psi user simply grasps how to make it work. If a test is called for, the psi user receives a +20 modifier to use the device (this bonus only applies to unfamiliar devices, and/or tests the character is defaulting on—it does not apply to devices the character is familiar with).

HIGH PAIN THRESHOLD

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

This sleight allows the async to block out, ignore, or otherwise isolate pain. The async reduces negative modifiers from wounds by 10.

HYPERTHYMESIA

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

Hyperthymesia grants the async a superior autobiographical memory, allowing them to remember the most trivial of events. A hyperthymestic async can be asked a random date and recall the day of the week it was, the events that occurred that day, what the weather was like, and many seemingly trivial details that most people would not be able to recall.

INSTINCT

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

Instinct bolsters the async's subconscious ability to gauge a situation and make a snap judgment that is just as accurate as a careful, considered decision. For Task Actions that involve analysis or planning alone (typically Mental skill actions), the async may reduce the timeframe by 90% without suffering a modifier. For Task Actions that involve partial analysis/planning, they may reduce the timeframe by 30% without penalty.

MULTITASKING

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

The async can handle vast amounts of information without overload and can perform more than one mental task at once. The character receives an extra Complex Action each Action Phase that may only be used for mental or mesh actions.

PATTERN RECOGNITION

PSI TYPE: Passive | ACTION: Automatic
RANGE: Self | DURATION: Constant

The character is adept at spotting patterns and correlating the non-random elements of a jumble—related items jump out at them. This is useful for translating languages, breaking codes, or find clues hidden among massive amounts of data. The character must have

a sufficiently large sample enough time to study, as determined by the gamemaster. This might range from a few hours of listening to a spoken transhuman language to a few days of investigating inscriptions left by long-dead aliens to a week or more of researching a lengthy cipher. Languages may be comprehended by reading or listening to them being spoken. Apply a +20 modifier to any appropriate Language, Investigation, Research, or cod-breaking Tests (note that this does not apply to Infosec Tests made by software to decrypt a code). The async may also use this ability to more easily learn new languages, reducing the training time by half.

PREDICTIVE BOOST

PSI TYPE:	Passive	ACTION:	Automatic
RANGE:	Self	DURATION:	Constant

The Bayesian probability machine features of the async's brain are boosted by this sleight, enhancing their ability to estimate and predict outcomes of events around them as they unfold in real-time and update those predictions as information changes. In effect, the character has a more intuitive sense for which outcomes are most likely. This grants the character a +10 bonus on any skill tests that involve predicting the outcome of events. It also bolsters the async's decision-making in combat situations by making the best course of action more clear, and so provides a +10 bonus to both Initiative and Fray Tests.

QUALIA

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Self	DURATION:	Temp (Action Turns)
STRAIN MOD:	–1		

The async can temporarily increase their intuitive grasp of things. In game terms, Intuition is raised by 5 for the chosen duration. This boost to Intuition also raises the rating of skills linked to that aptitude.

SAVANT CALCULATION

PSI TYPE:	Passive	ACTION:	Automatic
RANGE:	Self	DURATION:	Constant

The character possesses an incredible facility with intuitive mathematics. They can do everything from calculate the odds exactly when gambling to predicting precisely where a leaf falling from a tree will land by observing the landscape and local wind currents. The character specializes in calculation involving the activity of complex chaotic systems and so can calculate answers that even the fastest computers could not, including things like patterns of rubble distribution from an explosion. However, this mathematic facility is largely intuitive, so the character does not know the equations they are solving, they merely know the solution to the problem.

This sleight also provides a +30 modifier to any skill tests involving math (which the character is calculating, not a computer).

SENSORY BOOST

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Self	DURATION:	Temp (Action Turns)
STRAIN MOD:	–2		

An async uses this sleight to increase their natural or augmented sensory perception (sight, audio, smell, augmented) by enhanced cerebral processing, granting a +20 bonus modifier on sensory-based Perception Tests.

SUPERIOR KINESICS

PSI TYPE:	Passive	ACTION:	Automatic
RANGE:	Self	DURATION:	Constant

The async acquires more insight into people's emotive signals, gestures, facial expressions, and body language when it comes time to predict the person's emotional state, intent, or reactions. Apply a +10 modifier to Kinesics Skill Tests.

TIME SENSE

PSI TYPE:	Active	ACTION:	Automatic
RANGE:	Self	DURATION:	Temp (Action Turns)
STRAIN MOD:	–1		

An async with this ability can slow down his perception of time, making everything appear to move in slow motion or at reduced speed. In game terms, this sleight grants the async a Speed of +1. This extra Action Phase, however, can only be spent on mental and mesh actions.

UNCONSCIOUS LEAD

PSI TYPE:	Active	ACTION:	Automatic
RANGE:	Self	DURATION:	Temp (Action Turns)
STRAIN MOD:	+0		

This sleight allows the async to override their consciousness and let their unconscious mind take point. While in this state, the async's conscious mind is only dimly aware of what is transgressing, and any memories of this period will be hazy at best. The advantage is that the unconscious mind acts more quickly, and so the async's Speed is boosted by +1. The character remains aware and active, but is incapable of complex communication or other mental actions and is motivated by instinct and primitive urges more than conscious thought. Though it is recommended that the player retain control of their character while using Unconscious Lead, the gamemaster should feel free to direct the character's actions as they see fit.

PSI-GAMMA SLEIGHTS

Psi-gamma sleights deal with contacting (reading and communicating) and influencing the function of biological minds (egos within a biomorph, but also including animal life). Psi-gamma is only available to characters with Level 2 of the Psi trait.

Most psi-gamma use is handled as an Opposed Test between the async and the target (p. 222).

ALIENATION

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	+0	SKILL:	Psi Assault

Alienation is an offensive sleight that create a sense of disconnection between an ego and its morph—similar to that experienced when resleeved into a new body. The ego finds their body cumbersome, strange, and alien, almost like they are a prisoner within it. If the async beats the target in an Opposed Test, treat the test as a failed Integration Test (p. 272) for the target. This effect lasts for the sleight's duration.

CHARISMA

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Touch	DURATION:	Temp (Minutes)
STRAIN MOD:	–1	SKILL:	Control

The async uses this sleight to influence the target's mind on a subconscious level, so that the target perceives them to be charming, magnetic, and persuasive. If the async beats the target in an Opposed Test, they gain a +30 modifier on all subsequent Social Skill Tests for the chosen duration.

CLOUD MEMORY

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Minutes)
STRAIN MOD:	–1	SKILL:	Control

Cloud Memory allows the async to temporarily disrupt the target's ability to form long-term memories. If the async wins the Opposed Test, the target's memory-saving ability is negated for the duration. The target will retain short-term memories during this time, but will soon forget anything that occurred while this sleight was in effect.

DEEP SCAN

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Sustained
STRAIN MOD:	+1	SKILL:	Sense

Deep Scan is a more intrusive version of Thought Browse (p. 228), made to extract information from the targeted individual. If the Opposed Test succeeds, the async telepathically invades the target's mind and can probe it for information. For every 10 full points of MoS the async achieves on their test, they retrieve one piece of information. Each item takes one full Action Turn to retrieve, during which the sleight must be sustained. The target is aware of this mental probing, though they will not know what information the async acquired.

DRIVE EMOTION

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	–1	SKILL:	Control

This sleight allows the async to stimulate cortical areas of the target's brain related to emotion. This allows the async to induce, amplify, or tone down specific emotions, thereby manipulating the target. If the async beats the target in an Opposed Test, they will act in accordance with the emotion for the duration and under certain circumstances may suffer from certain penalties (up to +/–30), as determined by the gamemaster. For example, an async might receive a +30 Intimidation Test modifier against a target imbued with fear.

EGO SENSE

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Close	DURATION:	Temp (Action Turns)
STRAIN MOD:	–1	SKILL:	Sense

Ego Sense can be used to detect the presence and location of other sentient and biological life forms (i.e., egos) within the async's range. To detect these life forms, the async makes a single Sense Test, opposed by each life form within range. The async may suffer a modifier for detecting small animals and insects, similar to the modifier applied for targeting them in ranged combat (see p. 193); likewise, a modifier for detecting larger life forms may also be applied. If successful, the async has detected that the life form is nearby. Every 10 full points of MoS will ascertain another piece of information regarding the detected life: direction from async, approximate size, type of creature, distance from async, etc. The async will know if the target moves, if they do so during the sleight's duration.

EMPATHIC SCAN

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Close	DURATION:	Sustained
STRAIN MOD:	–2	SKILL:	Sense

Empathic Scan enables the async to sense the target's base emotions. If the async wins the Opposed Test, they intuitively feel the target's emotional current state for as long as the sleight is sustained. At the gamemaster's discretion, this knowledge may provide a modifier (up to +30) for certain Social skill tests.

IMPLANT MEMORY

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Instant
STRAIN MOD:	+0	SKILL:	Control

An async using this sleight can implant a memory of up to an hour's length inside the target's mind. This memory very obviously does not belong to the target—there is no way they will confuse it for one of their own. The intent is not to fake memories, but to place one of the async's memories in the target's mind so that the target can access it just like any other memory. This can be useful for "archiving" important data with an ally, providing a literal alternate perspective, or simply making a "data dump" for the target to peruse. Implant Memory requires an Opposed Test against unwilling participants. At the gamemaster's discretion, particularly traumatic memories might inflict mental stress on the recipient (p. 215).

IMPLANT SKILL

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	+0	SKILL:	Control

Similar to Implant Memory, this sleight allows the async to impart some of their expertise and implant it into the target's mind. For the duration of the sleight, the target benefits when using that skill. If the async's skill is between 31 and 60, the target receives a +10 bonus. If the async's skill is 61+, the target receives a +20 bonus. Implant Skill requires an Opposed Test against unwilling participants. In some cases, the target has been known to use the skill with the async's flair and mannerisms.

MIMIC

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Close	DURATION:	Instant
STRAIN MOD:	+0	SKILL:	Sense

In a setting where changing your body and face is not unusual, people learn to recognize habits and personality quirks more often. The async must use this sleight on a target and succeed in a Success Test. If successful, the async acquires an "imprint" of the target's mind that they can take advantage of when impersonating that ego. The async then receives a +30 bonus on Impersonation Tests when mimicking the target's behavior and social cues.

MINDLINK

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Touch	DURATION:	Sustained
STRAIN MOD:	+1/target after first	SKILL:	Control

Mindlink allows two-way mental communication with a target. This may be used on more than one target simultaneously, in which case the async can act as a telepathic "server," so that everyone mindlinked with the async may also telepathically communicate with each other (via the async, however, so they overhear). Language is still a factor in mindlinked communications, but this barrier may be overcome by transmitting sounds, images, emotions, and other sensations. Mindlink requires an Opposed Test against unwilling participants.

OMNI AWARENESS

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Close	DURATION:	Temp (Minutes)
STRAIN MOD:	–1	SKILL:	Sense

An async with Omni Awareness is hypersensitive to other biological life that is observing them. During this sleight's duration, the async makes a Sense Test that is opposed by any life that has focused their attention on them within the sleight's range; if successful, the async knows they are being watched, but not by whom or what. It does, however, apply a +30 Perception bonus to spot the observer. This sleight does not register partial attention or fleeting attention, or simple perception of the async, it only notices targets

who are actively observing (even if they are concealing their observation). This sleight is effective in spotting a tail, as well as finding potential mates in a bar.

PENETRATION

PSI TYPE:	Active	ACTION:	Quick
RANGE:	Touch	DURATION:	Instant
STRAIN MOD:	1 per AP point	SKILL:	Psi Assault

Penetration is a sleight that works in conjunction with any offensive sleight that involves the Psi Assault skill. It allows the async to penetrate the Psi Shield of an opponent by concentrating their psi attack. Every point of Armor Penetration applied to a psi attack inflicts 1 point of strain. The maximum AP that may be applied equals the async's Psi Assault skill divided by 10 (round down).

PSI SHIELD

PSI TYPE:	Passive	ACTION:	Automatic
RANGE:	Self	DURATION:	Constant

Psi Shield bolsters the async's mind to psi attack and manipulation. If the async is hit by a psi attack, they receive WIL ÷ 5 (round up) points of armor, reducing the amount of damage inflicted. They also receive a +10 modifier when resisting any other sleights.

PSYCHIC STAB

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Instant
STRAIN MOD:	+0	SKILL:	Psi Assault

Psychic Stab is an offensive sleight that seeks to inflict physical damage on the target's brain and nervous system. Each successful attack inflicts 1d10 + (WIL ÷ 10, round up) damage. Increase the damage by +5 if an Excellent Success is scored.

SCRAMBLE

PSI TYPE:	Passive	ACTION:	Automatic
RANGE:	Self	DURATION:	Constant

Scramble allows the async using the sleight to hide from another async using the Ego Sense or Omni Awareness sleights. Apply a +30 modifier to the defending async's Opposed Test.

SENSE BLOCK

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	–1	SKILL:	Psi Assault

Sense Block disables and short circuits one of the target's sensory cortices (chosen by the async), interfering with and possibly negating a specific source of sensory input for the chosen duration. If the async beats the target in the Opposed Test, the target suffers a –30 modifier to Perception Tests with that sense equal (doubled to –60 if the async scores an Excellent Success).

SPAM

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	+0	SKILL:	Psi Assault

The sleight allows the async to overload and flood one of the target's sensory cortices (chosen by the async), spamming them with confusing and distracting sensory input and thereby impairing them. If the async wins the Opposed Test, the target suffers a –10 modifier to all tests the duration of the sleight (doubled to –20 if the async scores an Excellent Success).

STATIC

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Close	DURATION:	Sustained
STRAIN MOD:	+0	SKILL:	None

The async generates an anti-psi jamming field, impeding any use of ranged sleights within their range. All such ranged sleights suffer a –30 modifier. This sleight has no effect on self or touch-range sleights.

SUBLIMINAL

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Instant
STRAIN MOD:	+2	SKILL:	Control

The Subliminal sleight allows the async to influence the train of thought of another person by implementing a single post-hypnotic suggestion into the mind of the target. If the async wins the Opposed Test, the recipient will carry out this suggestion as if it was their own idea. Implanted suggestions must be short and simple; as a rule of thumb, the gamemaster may only suggestions encompassed by a short sentence (for example: "open the airlock," or "hand over the weapon"). At the gamemaster's discretion, the target may receive a bonus for resisting suggestions that are immediately life threatening ("jump off the bridge") or that violate their motivations or personal strictures. Suggestions do not need to be carried out immediately, they may be implanted with a short trigger condition ("when the alarm goes off, ignore it").

THOUGHT BROWSE

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Sustained
STRAIN MOD:	–1	SKILL:	Sense

Thought Browse is a less-intrusive form of mind reading which scans the target's surface thoughts for certain "keywords" like a particular word, phrase, sound, or image chosen by the async. Rather than digging through the target's ego as with the Deep Scan sleight, Thought Browse merely verifies whether a target has a particular person, place, event, or thing in mind, which can be used by a savvy investigator to draw conclusions without the need to invade the mind

directly. Thought Browse may be sustained, allowing the async to continue scanning the target's thoughts over time. The async must beat the target in an Opposed Test for each scanned item.

PSYCHOSURGERY

Given the reach of neuroscience in the time of *Eclipse Phase*, it is easy to think of the mind as programmable software, as something that can be reverse-engineered, re-coded, upgraded, and patched. To a large degree, this is true. Aided by nanotechnology, genetics, and cognitive science, neuroscientists have demolished numerous barriers to understanding the mind's structure and functions, and even made great leaps in unveiling the true nature of consciousness. Genetic tweaks, neuro-mods, and neural implants offer an assortment of options for improving the brain's capabilities. The transhuman mind has become a playground—and a battlefield. Nanovirii unleashed during the Fall infected millions, altering their brains in permanent ways, with occasional outbreaks still occurring a decade later. Cognitive virii roam the mesh, plaguing infomorphs and AIs, reprogramming mind states. An "infectious idea" is now a literal term.

In truth, mind editing is not an easy, safe, and error-proof process—it is difficult, dangerous, and often flawed. Neuroscience may be light years ahead of where it was a century ago, but there are many aspects of the brain and neural functions that continue to confound and elude even the brightest experts and AIs. Technologies like nano-neural mapping, uploading, digital mind emulation, and artificial intelligence are also comparatively in their infancy, being mere decades old. Though transhumanity has a handle on how to make these processes work, it does not always fully understand the underlying mechanisms.

Any neurotech will tell you that mucking around in the mind's muddy depths is a messy business. Brains are organic devices, molded by millions of years of unplanned evolutionary development. Each is grown haphazardly, loaded with evolutionary leftovers, and randomly modified by an unlimited array of life events and environmental factors. Every mind features numerous mechanisms—cells, connections, receptors—that handle a dizzying array of functions: memory, perception, learning, reasoning, emotion, instinct, consciousness, and more. Its system of organization and storage is holonomic, diffused, and disorganized. Even the genetically-modified and enhanced brains of transhumans are crowded, chaotic, cross-wired places, with each mind storing its memories, personality, and other defining features in unique ways.

What this means is that though the general architecture and topography of neural networks can be scanned and deduced, the devil is in the details. Techniques used to modify, repair, or enhance one person's mind are not guaranteed equal success when applied to another's brain. For example, the process by which brains store knowledge, skills, and memories results in a strange chaining process where these memories are linked and associated with other memories, so attempts to alter one memory can have adverse affects on other memories. In the end, minds are slippery and dodgy things, and attempts to reshape them rarely go as planned.

THE PROCESS OF PSYCHOSURGERY

Psychosurgery is the process of selective, surgical alteration of a transhuman mind. It is a separate field from neural genetic modification (which alters genetic code), neuralware implantation (adding cybernetic or biotech inserts to the brain or nervous system), or brain hacking (software attacks on computer brains, neural inserts, and infomorphs), though they are sometimes combined.

Psychosurgery is almost always performed on a digital mind-state, whether that be a real-time emulation, a backup, or a fork. In most cases, the subject's mind-state is copied via the same technology and process as uploading or forking, and run in a simulspace. The subject need not be willing, and in these cases the subject's permissions are restricted. Numerous psychosurgery simulspace environments are available, each custom-designed for facilitating specific psychosurgical goals and programmed with a thorough selection of psychotherapy treatment options.

SOLARCHIVE SEARCH: "THE HUMAN COGNOME PROJECT"

The Human Cognome Project was an academic research venture to reverse engineer the human brain, paralleling in many ways the Human Genome Project and its success in deciphering the human genome. The HCP was a multidisciplinary undertaking, relevant to biology, neuroscience, psychology, cognitive science, artificial intelligence, and philosophy of mind.

Funded and supported by scientific and corporate entrepreneurs and early transhumanist groups, the HCP developed the fundamentals of digitizing an ego and was a major driving force towards the first transhumans with elevated intelligence and brain capacity. The HCP has also been instrumental in cataloging transhuman minds and developing databases of "mind patches" based on the mind-states of healthy individuals for treating mental diseases and damage. Though most HCP data is available to the public, some argonauts claim that certain data is held hostage by some hypercorps, potentially for the development of proprietary mind-altering technologies.

After the Fall, the remnants of this project were acquired by the Planetary Consortium. ♣

The actual process of psychosurgery breaks down into several stages. First is diagnosis, which can involve the use of several neuro-imaging techniques on morphed characters, mapping synaptic connections, and building a neurochemical model. It can also involve complete psychological profiling and psychometric behavioral testing, including personality tests and simulspace scenario simulations. Digital mind-states can be compared to records of people with similar symptoms in order to identify related information clusters. This analysis is used to plan the procedure.

The actual implementation of psychosurgical alteration can involve several methods, depending on the desired results. Applying external modules to the mind-state is often the best approach, as it doesn't meddle with complicated connections and new inputs are readily interpreted and assimilated. For treatments, mental health software patches compiled from databases of healthy minds are matched, customized, and applied. Specialized programs may be run to stimulate certain mental processes for therapeutic purposes. Before an alteration is even applied, it may first be performed on a fork of the subject and run at accelerated speeds to evaluate the outcome. Likewise, multiple treatment choices may be applied to time-accelerated forks this way, allowing the psychosurgeon to test which is likely to work best.

Not all psychosurgery is performed for the subject's benefit, of course. Psychosurgery can be used to interrogate or torture prisoners, erase memories, modify behavior, or inflict crippling impairments. It is also sometimes used for legal punishment purposes, in an attempt to impair criminal activity. Needless to say, such methods are often brute-forced rather than fine-tuned, ignoring safety parameters and sometimes resulting in detrimental side effects.

Psychosurgery Mechanics

In game terms, psychosurgery is handled as a Task Action requiring an Opposed Test. The psychosurgeon rolls Psychosurgery skill against the target's WIL x 3. Apply modifiers as appropriate from the Psychosurgery Modifiers table.

If the psychosurgeon succeeds and the subject fails, the psychosurgery is effective and permanent. The alteration becomes a permanent part of the subject's ego, and will be copied when uploaded (and sometimes when forking).

If both sides succeed but the psychosurgeon rolls higher, the psychosurgery is effective but temporary. It lasts for 1 week per 10 points of MoS.

If the subject rolls higher, or if the psychosurgeon fails their roll, the attempt does not work.

The timeframe listed for psychosurgical procedures is according to the patient's subjective point of view. Since most subjects are treated in a simulspace, time acceleration may drastically reduce the amount of real-time such a procedure requires (see *Defying Nature's Laws,* pp. 240–241).

Mental Stress

Psychosurgery is a modification to the transhuman mind, and sometimes to the actual person that resides in that mind. It is unsurprising then that psychosurgery places stress on the subject's mental state and sometimes even inflicts mental traumas.

Each psychosurgery option lists a Stress Value (SV) that is inflicted on the subject regardless of the tests' success or failure. If the psychosurgeon achieves an Excellent Success (MoS 30+), this stress is halved (round down). If the psychosurgeon rolls a Severe Failure (MoF 30+), the stress is doubled. Alternately, a Severe Failure could result in unintended side effects, such as affecting other behaviors, emotions, or memories.

If a critical success is rolled, no stress is applied at all. If a critical failure is rolled, however, an automatic trauma is applied in addition to the normal stress.

Some psychosurgery conditions may also affect the SV, as noted on the Psychosurgery Modifiers table.

Roleplaying Mind Edits

Many of the changes incurred by psychosurgery are nebulous and difficult to pin down with game mechanics. Alterations to a character's personality and mind-state are often better handled as roleplaying factors anyway. This means that players should make a real effort to integrate any such mental modifications into their character's words and actions, and gamemasters should ensure that a character's portrayal plays true to their mind edits. Some psychosurgical mods can be reflected with ego traits, while others might incur modifiers to certain tests or in certain situations. The gamemaster should carefully weigh a brain alteration's effects, and apply modifiers as they see appropriate.

Psychosurgery Procedures

The following alterations may be accomplished with psychosurgery. At the gamemaster's discretion, other mind-editing procedures may be attempted, using these as a guideline.

Behavioral Control

TIMEFRAME: 1 week

PM: Limit/Boost –10; Block/Encourage –20, Expunge/Enforce –30

SV: (1d10 ÷ 2, round up)

Commonly used for criminal rehabilitation, behavioral control attempts to limit, block, or expunge a specific behavior from the subject's psyche. For example, a murderer may be conditioned against acts of aggression, or a kleptomaniac might be restricted from stealing. Some people seek this adjustment willingly, such as socialite glitterati who restrict their desire to eat, or an addict who cuts out their craving for a fix.

Behavioral control can also be applied as an unleashing or reinforcement. A companion may desire to eliminate their sexual inhibitions, for example, or a hypercorp exec may boost his commitment to place work above all else.

A character will simply feel compelled to avoid a behavior that is *limited* (perhaps suffering a –10 modifier), but will find it quite difficult to pursue a behavior that is *blocked* (requiring a WIL x 3 Test, and suffering a –20 modifier). They will find themselves completely incapable of initiating a behavior that is *expunged*, and if forced into the behavior will suffer a –30 modifier and (1d10 ÷ 2, round up) points of mental Stress.

Likewise, a character will feel compelled to pursue a behavior that is *boosted*, and will find it hard to avoid engaging in a behavior that is *encouraged* (requiring a WIL x 3 Test to avoid). They will have no choice but to engage in *enforced* behaviors, and will suffer (1d10 ÷ 2, round up) points of mental Stress if prevented from doing so.

Behavioral Masking

TIMEFRAME: 1 week

PM: –20

SV: 1d10 ÷ 2, round up

Given the ability to switch bodies, many security and law enforcement agencies have resorted to personality and behavioral profiling as a means of identifying people even when they resleeve. Though such systems are far from perfect, someone's unconscious habits and quirks could potentially give them away. Characters who wish to elude identification in this way may undergo behavioral masking, which seeks to alter and change the character's unconscious habits and social cues. Apply a +30 modifier when defending against such identification systems and Kinesics Tests.

Deep Learning

TIMEFRAME: Skill Learning Time +2

PM: +20

SV: 1

Using tutorial programs, memory reinforcement protocols, conditioning tasks, and deep brain stimulation, the subject's learning ability is reinforced, allowing them to learn new skills more quickly.

Emotional Control

TIMEFRAME: 1 week

PM: Limit/Boost –10; Block/Encourage –20, Expunge/Enforce –30

SV: (1d10 ÷ 2, round up) + 2

Similar to behavioral control, emotional control seeks to modify, enhance, or restrict the subject's emotional responses. Some choose these modifications willingly, such as limiting sadness in order to be happier, or encouraging aggression in order to be more competitive. Mercenaries and soldiers have been known to expunge fear. Follow the same rules as given for Behavioral Control.

PSYCHOSURGERY MODIFIERS

SITUATION	PSYCHOSURGERY TEST MODIFIER	SV MODIFIER
Improper Preparatory Diagnosis	–30	+1
Safety Protocols Ignored	+20	x2
Simulspace Time Acceleration	–20	+2
Subject is an AI, AGI, or uplift	–20	+1

INTERROGATION

TIMEFRAME: Variable (gamemaster discretion; 1 week default)
PM: +30
SV: 1d10

Psychosurgery can be used for interrogative purposes via the application of mental torture and manipulation. A successful Psychosurgery Test applies a +30 modifier to the Intimidation Test for interrogation.

MEMORY EDITING

TIMEFRAME: 1 week (2 weeks adding/replacing)
PM: –10 (willing) or –30 (forced)
SV: (1d10 ÷ 2, round up)

By monitoring memory recall (forcibly invoked if necessary), psychosurgeons can identify where memories are stored in the brain and target them for removal. Memory storage is complex and diffused, however, and often linked to other memories, so removing one memory may affect others (gamemaster discretion).

Adding or replacing memories is a much more complicated operation and requires that such memories be copied from someone who has experienced them or manufactured with XP software. Even when successfully implanted, fake memories may clash with other (real) memories unless those are also erased.

PERSONALITY EDITING

TIMEFRAME: 1 week
PM: Minor –10; Moderate –20, Major –30
SV: (1d10 ÷ 2, round up) + 3

Possibly the most drastic psychosurgery procedure, personality editing involves altering the subject's core personality traits. The personality factors that may be modified is almost unlimited, including traits such as openness, conscientiousness, altruism, extroversion/introversion, impulsiveness, curiosity, creativity, confidence, sexual orientation, and self-control, among others. These traits may be enhanced or reduced to varying degrees. The effect is largely reflected by roleplaying, but the gamemaster may apply modifiers as they see fit.

PSYCHOTORTURE

TIMEFRAME: Variable
PM: +30
SV: 1d10 SV per day

Psychotorture is mental manipulation for the simple intention of causing pain and anguish, reflected in game terms as mental stress and traumas. Prolonged torture can lead to serious mental disorders or worse.

PSYCHOTHERAPY

TIMEFRAME: Variable
PM: +0
SV: 0

Therapeutic psychosurgery is beneficial for characters suffering from mental stress, traumas, and disorders. A successful Psychosurgery Test applies a +30 modifier to mental healing tests, as noted on p. 215.

SKILL IMPRINTS

TIMEFRAME: 1 week per +10
PM: +0
SV: 1 per +10

Skill imprinting is the use of psychosurgery to insert skill-set neural patterns in the subject's brain, temporarily boosting their ability. Skill imprints are artificial boosts, however, degrading at the rate of –10 per day. No skill may be boosted higher than 60.

SKILL SUPPRESSION

TIMEFRAME: 1 day per –10
PM: –10
SV: 1 per +10

Skill suppression attempts to identify where skills are stored in the brain and then block or remove them. The subject's skill is impaired and may be lost entirely.

TASPING

TIMEFRAME: 1 day
PM: +10
SV: 1

Tasping is the use of deep brain stimulation techniques to tickle the mind's pleasure centers. Though this procedure is often used for therapeutic purposes for patients suffering from depression or other mental illnesses, the intent with tasping is to overload the subject into a prolonged state of almost unendurable bliss. Such stimulation is highly addictive, however, so character's exposed to it for any length of time (over 1 hour, subjective) are likely to pick up the Addiction trait (p. 148). Some criminal organizations have been known to use tasping addiction and rewards as a means of controlling those under their thrall.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

THE LOST

<begin excerpt>
PSICLONE Project Quarterly Board Meeting
2nd Quarter 8 AF
FUTURA Project Conclusion—
Executive Summary Report
Prepared by Dr. Amelia Sheppard

Per request, I have compiled a review of the Futura Project and its fallout, 5 years after whistleblowers and intense media attention forced us to end the project and release the remaining subjects (dubbed "the Lost" by popular media).

Futura was a joint initiative spearheaded by Hanto Genomics and strongly backed by Cognite, with numerous other partners (complete list). The project was initially proposed by my mentor, Dr. Antonio Pascal, whose team had proven the feasibility of Accelerated Life Experience Training (ALET) after a series of pilot studies with two small (N<1000) samples. While it is true that these early pilot studies used both older subjects and a lesser amount of time dilation, the rationale for the Futura Project's ambitious program was justified by a remarked decrease in transhumanity's population due to the Fall, a system-wide stagnant population growth rate (blamed on various factors including increased longevity, available contraception, and rising despair over troubling times), as well as a desire to move aggressively into a new technological sector in the hopes of obtaining a competitive advantage.

Futura began immediately in the wake of the Fall with an initial seed population of ▬ test subjects culled from extant genetic material and gestated to between 1 week and 6 months after birth. Of these, less than 10% were live births from either a surrogate or genetic birth mother who had perished during the Fall. The majority came from our Lunar and Martian labs and were brought to term within an exowomb.

After the sample was selected, all subjects were sleeved into our fast-growth futura-brand biomorph bodies and inducted into customized simulspace accelerated learning environments. The project made extensive use of emergent technologies and techniques culled from recaptured TITAN facilities, including neogenetic traits for the futura morphs and time distortion applications for captive simulspace populations. Futura ran concurrently on three different research stations with a combined staff of 2,211 researchers and support personnel and 45 AGIs custom-programmed for expert child development. Project goals were to raise each child to a subjective 18 years life experience in 3 years objective time.

Despite omnipresent observation and real-time adjusting of the simulspace and educational programming for optimal normality, somewhere along the way the project suffered a breakdown in quality assurance and parameter monitoring that resulted in a near total failure at empathy modeling. We first observed this effect 11 months into the project when the subjects had aged to approximately 6 years of age. Incidences of animal cruelty and acting out had spiked, though at that time they remained within acceptable standards. Over the next few months this trend continued and Dr. Pascal authorized the usage of more authoritative "parenting" to attempt to correct for the borderline sociopathic behavior that was being exhibited by 23.19% of all subjects by the 18-month mark (9 years of age).

We now know that these changes had the unintended consequence of suppressing overt displays of cruelty and violence and merely taught the majority of subjects how to conceal their psychoses. It was also at this time that the first deaths occurred. The initial waves were thought to be accidents and both the victim and perpetrator were usually backed up to a week or so of subjective time. Post-project analysis now shows that 43.87% of our subjects had engaged in at least one act of premeditated murder by the 24-month mark (12 years of age) and the counseling protocols were only training them how to lie more effectively.

It was at this point that myself and Dr. Aaron Bharani advocated pulling the plug on the project and bringing the subjects out to real time and intensive counseling. Dr. Pascal vetoed our concerns without ever taking them to the board. As the project spiraled towards its conclusion, a fork of Dr. Bharani went public at the 34 month mark, inciting a firestorm of controversy. While Dr. Pascal successfully tied up investigators, hoping to see the project through to its conclusion, the incident at our Legacy research station occurred. Initial findings concluded that one or more of the subjects had escaped the program and were in fact responsible for the habitat's environmental failures and the thousands of subsequent deaths.

In the face of intense public and private scrutiny, many of the partners involved in the project attempted to pull out and even eliminate all traces of their involvement. In the resulting chaos, an estimated ▬▬ subjects were quietly released into the system's general population. It was only after this occurred that all known subjects were identified as having been infected with the Watts-Macleod strain of the Exsurgent virus, though when and how this occurred remains troubling and unclear. Though later orders resulted in all remaining subjects being euthanized and/or backed up into cold storage, only ▬▬ of the released subjects were recaptured. Of the rest, ▬ pursued sanctuary with sympathetic authorities, ▬▬ went public and submitted themselves to extensive psychotherapy, ▬ were killed in incidents of violence and not resurrected, and the rest presumably went into hiding.

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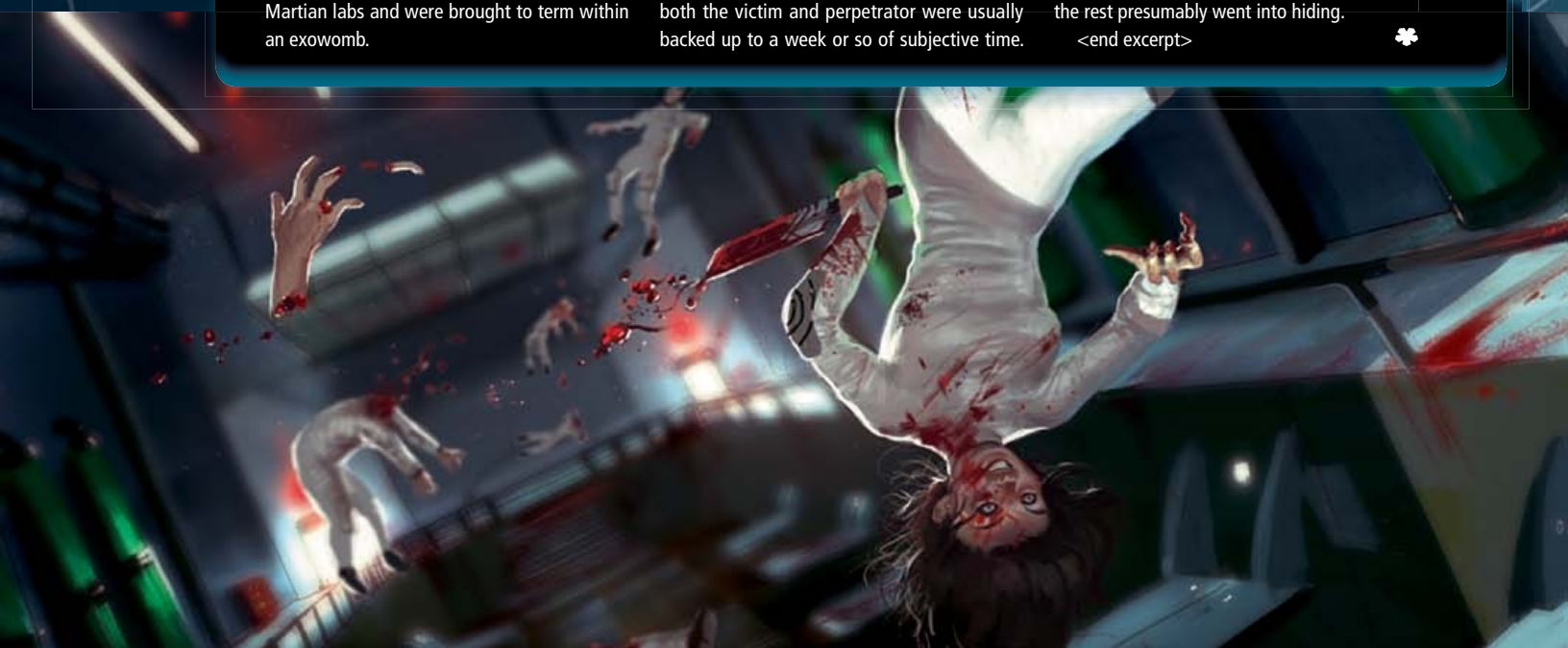


THE MESH

MESH INSERTS, ENDOS, ECTOS

To access the mesh, you need some sort of device. Often, these are implanted right into your brain—a mesh insert, sometimes called an "endo"—or an ecto, an external minicomputer. ■ **p. 237**

INTERFACES

There are three protocols used to access and manipulate data on the mesh. ■ **p. 239**

Augmented Reality (AR): Information overlaid on the user's physical senses—sight, sound, odors, tastes, and tactile sensations. ■ **p. 239**

Virtual Reality (VR): Physical senses are overridden and your character is placed in a computer-generated environment—a *simulspace*. ■ **p. 240**

Experience Playback (XP): A sensory recording, either of your own or provided by someone else. ■ **p. 241**

MESH USES

Quite simply, your character will use the mesh for almost all their communications, research, and plenty of recreation, too. ■ **p. 243**

Everyday Mesh Mechanics: The basic rules for standard mesh use start here. ■ **p. 245**

Online Research: Your character will use the Research skill to find info in the mesh. ■ **p. 249**

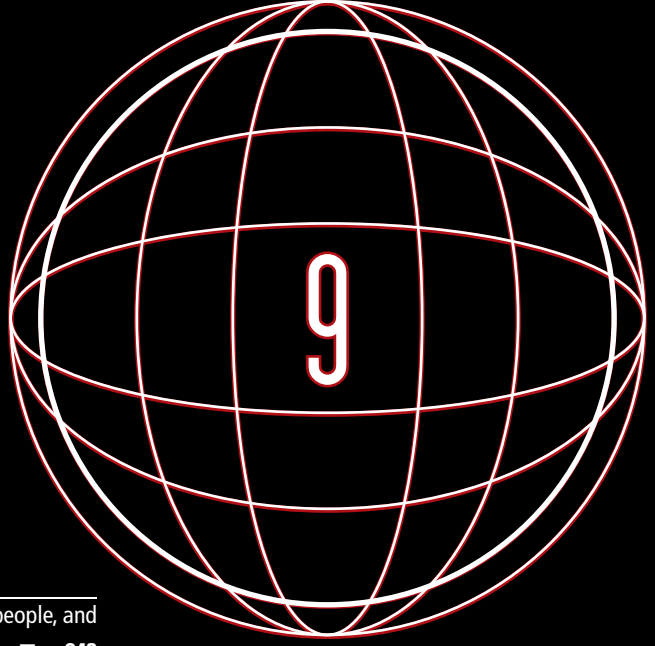
Infolife and Infomorphs

Both disembodied transhumans and artificial intelligences roam the mesh. ■ **p. 244**

Muses: A specific type of AI that functions as a personal aide and companion. ■ **pp. 244, 264**

AGIs: Self-aware digital consciousnesses, capable of intelligent and autonomous actions. ■ **pp. 244, 264–265**

Infomorphs: Details and rules for digital egos. ■ **pp. 244, 264–265**



MESH ABUSES

The mesh is rife with miscreants, opportunistic hackers, and people who plain just don't agree with you. ■ **p. 243**

Hackers & Malware: Two primary threats —people, and people's tools. ■ **p. 243**

Mesh Security: Four prime methods of security on the mesh: authentication, firewalls, active monitoring, and encryption. ■ **p. 253**

Intrusion: Infiltrating a system can happen two ways: slicing through the security quietly or launching brute-force attacks to knock the door down. ■ **p. 254**

Hacking Sequence: Quick-and-dirty hacking summary. ■ **p. 255**

Intrusion Countermeasures: If your hacking efforts alert the system to your presence, intrusion countermeasures will attempt to locate, attack, or otherwise thwart you! ■ **p. 257**

Cyberbrain Hacking: Pods and synthmorphs are equipped with cybernetic brains—and like other computers, these can be hacked. ■ **p. 261**

Before the Fall, humanity interfaced with each other through the internet, interconnected networks that served as the technical backbone for the evolving world wide web. While it began as a electronic medium for retrieving information from various sources (replacing even older paper-based infosources), succeeding generations emphasized digital communities and hosted services such as networking sites, wikis, blogs, and folksonomies. These facilitated openness, collaboration, and sharing, thereby laying the groundwork for a modern, interconnected information society. Further stages emphasized wireless interaction, geolocation, and semantic web approaches and achieved quantum leaps in the realm of user interaction with the advent of brain-computer interfaces, augmented reality (AR), virtual reality (VR), and experience playback (XP).

This environment, coupled with the exponential growth of processing power and memory storage, created an evolutionary path for the development of intelligent agents—designed to augment human information processing—that then transformed into artificial intelligences (AIs) in the following decades. While these "weak" AIs did not possess the full range of human cognitive abilities, tended towards overspecialization, and were restrained by programmed limitations, the digital evolution toward artificial general intelligences (AGIs)—"strong" AIs with intelligence capabilities that equaled or exceeded human abilities—could not be halted. From this point it was but a matter of time before so-called seed AI would come into existence, machine minds capable of recursive self-improvement, leading to an exponential growth in intelligence. Unfortunately for humanity, the TITANs were the result.

Even before the Fall, however, the internet of old was transforming into something new. Instead of connecting via central servers, users were wirelessly linking to each other, creating a decentralized intermeshed network of handheld devices, personal computers, robots, and electronic devices. Users were online all of the time and connected with everything and everyone around them in a ubiquitous computing environment. This was especially true of those participating in humanity's expansion into space. Disconnected from the internet due to distance and light-speed communication lags, these users were nevertheless connected with all of the people and objects in their nearby environment or habitat, creating local wireless mesh networks. Thus was the mesh born, taking the place of the old internet of earth, lost during the Fall.

MESH CAPABILITIES

The mesh, as it exists in *Eclipse Phase,* is only possible thanks to major developments made in computer and communication technologies and nanofabrication. Wireless radio transmitters and receivers are so unobtrusively tiny that they can literally be factored into anything. As a result, everything is computerized and connected, or at least tagged with a radio frequency ID (RFID) chip. Even food is tagged with edible chips, complete with expiration date and nutritional content. Other communications mediums, such as laser and microwave links, add to the information flow.

Data storage technology has advanced to such high levels that even an individual user's *surplus* storage capacity can maintain an amount of information easily surpassing the entire 20th-century internet. Lifeloggers can literally record every moment of their life and never fear about running out of room. The amount of data that people carry around in the mesh inserts in their head or in portable ecto personal computers is staggering.

Processing capabilities also exist at hyper-efficient levels. Even massive supercomputers are a thing of the past when modest handheld devices can fulfill almost all of your needs, even while simultaneously running a personal AI assistant, downloading media, uploading porn, and scanning thousands of newsfeeds. Within the mesh network, devices that near their processing limits simply share the burden with devices around them, creating a massively distributed framework that in some ways is like an entire supercomputer to itself, shared by everyone.

Similarly, transmission capacity now far exceeds most citizens' definition of need. Anyone born within the last several generations has always lived in a world in which hyper-realistic, multi-sensory media of nearly any length is available for instantaneous download or upload from anywhere. Massive databases and archives are copied back and forth with ease. Bandwidth is such a non-issue that most people forget it ever was. In fact, given the sheer amount of data available, *finding* the information or media you're looking for takes considerably longer than downloading it. The mesh is also *never* down. As a decentralized network, if any one device is taken offline, connections merely route around it, finding a path via the thousands if not millions of available nodes. Similarly, the entire mesh behaves like a peer-to-peer network, so that large transfers are broken into manageable chunks that take independent routes. In fact, most users maintain personal torrent archives that are publicly accessible and shared.

Private networks still exist, of course. Some are physically walled away behind closed-access wired networks or even wireless-inhibiting infrastructure that keep a network isolated and contained. Most, however, operate on top of the public mesh, using encrypted tunneling protocols that provide private and secure communications over unsecured networks. In other words, these private networks are part of the mesh along with everything else, but only the participants

SOLARCHIVE SEARCH: ECTO(-LINK)

A very popular brand of mobile multifunctional personal digital assistant before the Fall, the ecto name became a synonym for handheld personal computers in the Mesh Age. Standard implanted computers are also sometimes referred to as endos to reflect the difference between an external and an internal device.

No matter if ecto or endo, modern computers are governed by an operating system (OS), a multifunctional suite of programs that includes media tools, a mesh browser, locator, socializing programs (messenger, socnet updater), cartography and navigation software, language translation software, and similar software tools. OS designs are highly customizable, allowing plug-and-use add-ons for whatever additional software and gadgets are desired. Typically, the user's muse (personal AI assistant) facilitates software interactions.

The ecto itself is typically the size of 20th-century credit card and can be molded and shaped into different forms due to smart material construction. They are often worn as jewelry or clothing accessories, particularly bracelets. The user interface varies according to user preference. Wireless-enabled contacts and earbuds equip users who lack mesh implants, enabling them to experience augmented reality and the ecto's AR control interface. Standard entoptic control interfaces are also available via wireless radio, skinlink, and direct fiberoptic line. ♣

can interact with them thanks to encryption, user authentication, and message integrity checking.

With the factionalization of transhumanity, attempts to unify software into standard formats have still failed. However, different operating systems or protocols are rarely an obstacle anymore due to easily accessible conversion tools and AI-aided compatibility oversight.

MESHING TECHNOLOGIES

Almost all biomorphs in the solar system are equipped with basic mesh inserts (p. 300)—implanted personal computers. These implants are grown in the brain via non-intrusive nanosurgery. The processor, wireless transceiver, storage devices, and other components are directly wired to the user's cerebral neuronal cells and cortical centers responsible for language, speech, and visual perception among others. Thought-to-communication emulations (so called *transducing*) enables the user to control the implant just by thinking and to communicate without vocalizing. Input from the mesh inserts is transmitted directly into the brain and sometimes perceived as augmented reality, overlaid on the user's physical senses. In a similar vein, the mesh inserts installed in synthmorphs and pods are directly integrated with their cyberbrains (creating a potential security concern as cyberbrains are vulnerable to hacking).

External devices called ectos (p. 325) are also used to access the mesh, though these are growing increasingly rare given the prevalence of mesh inserts. Ecto interface options include haptic interfaces like touch-display controls, bracelets or gloves that detect arm, hand, or finger movements (virtual mouse and keyboards), eye tracking and blink control, body scanning grids (body axis control or all-limb controls for non-humanoids), voice controls, and more. Sensory information is handled via lenses, glasses, earplugs (subdermal bone-vibrating speakers), bodysuits, gloves, nose plugs, tongue dams, and other devices that are wirelessly linked to (or physically plugged into) the ecto.

INFORMATION OVERLOAD

The mesh contains massive amounts of personal and public information shared by users, a digital commons

LEGACY OF THE TITANS

Given the technical capabilities of modern personal computers, supercomputers and cutting-edge wired broadband are not needed. But there is another reason they are avoided: the TITANs.

Mainframes, hive-mind clusters, and massively parallel distributed computing parallel hive-mind systems are all considered potential dangers in *Eclipse Phase*, as they possess sufficient processing power and data capacity to enable a seed AI and another potential hard takeoff singularity. Some habitats go so far as to outlaw such systems completely under the severest of penalties: final death including the deletion of all backups and recent forks, in most cases.

Those supercomputers that habitats do allow are "hard networks" that control a habitat's most crucial systems like orbit maintenance thrusters, life support, communications, power, or cutting-edge hypercorp R&D projects. These systems are typically physically wired, heavily monitored, and locked down in electronic data processing centers with strong access restrictions and ruthless real-world security measures.

Similarly, AIs themselves are quite often heavily restricted, and it is not unusual for AGIs to be outright banned, especially in the inner system and Jovian Republic. Most intelligent programs are limited with programmed growth restraints, specifically designed to prevent them from becoming self-upgrading. ■

of news, media, discourse, knowledge, environmental data, business, and culture. Transhumans embrace the mesh as a tool for exchange, communication, and participation with other users, both local and far away. As such, the mesh is an up-to-date, authoritative source on all transhuman knowledge and activities.

Not everything online is available for free, of course, except perhaps in the autonomist zones. Quite a bit of proprietary data is kept off the grid in secure storage or sequestered away in private networks. Some of this is for sale, and heavily encumbered with digital restrictions—software, media, nanofabrication blueprints, skillsofts, etc. A thriving open source movement offers free and open source alternatives to much proprietary data, however, and numerous digital piracy groups deal out cracked versions of proprietary material, despite pressure from some authorities. Other data is simply secured from competitive interests (hypercorp research projects) or is an extremely private affair, such as ego backups.

SPIMES

Along with the accumulated data of transhuman affairs, the mesh is also cluttered with information derived from untold numbers of wireless-capable sensor-enabled devices that continuously update the mesh with their location, sensor recordings, and other data. Colloquially called "spimes," these location-aware, environment-aware, self-logging, self-documenting objects broadcast their data to anyone who cares to listen. Since visual, auditory, and other sensors are absurdly tiny and inexpensive, they are ubiquitously incorporated into nearly every object or product a person might wear, apply, use, or internalize. This allows almost any user to reach out through the mesh and gather environmental data and ambient sensor recordings from a specific location (or at least public locales—private areas typically block such signals or slave them to a local AI that filters their output).

SURVEILLANCE, PRIVACY, AND SOUSVEILLANCE

While spimes are easily trackable, they also contribute to an environment of universal surveillance. Between spimes, microsensors, ubiquitous security systems, and the recording capabilities of the mesh inserts used by almost everyone, just about everything is recorded. Factor in the availability of mesh-tracking, facial recognition, rep/social networks, and other data mining software, and it rapidly becomes clear that privacy is an outdated concept. Special considerations must be embraced by anyone that seeks to mask their identity or cover their movements. Alternately, off-the-shelf looks common with some morphs (especially synthmorphs and pods) allow a user to blend in with the masses.

Though in part this may seem an Orwellian surveillance nightmare, the abundance of recording tech actually works as "sousveillance" (watching from below), serving a role in making everything transparent and putting checks on abuses of power.

Authoritarian regimes tread carefully, as they are also universally monitored, despite their attempts to control information flow. Many people also willing participate in this open "participatory panopticon." With nearly infinite storage capacity, dedicated lifeloggers record every moment of their lives and share it for others to experience.

INTERFACING: AR, VR, AND XP

Mesh media is accessed using one of three protocols: augmented reality (AR), virtual reality (VR), or experience playback (XP).

AUGMENTED REALITY

Most users perceive data from the mesh as augmented reality—information overlaid on the user's physical senses. For example, computer-generated graphics will appear as translucent images, icons, or text in the user's field of vision. While visual AR data—called *entoptic* data—is the most common, other senses may also be used. AR is not limited to visuals, however, and can also include acoustic sounds and voices, odors, tastes, and even tactile sensations. This sensory data is high-resolution and seemingly "real," though it is usually presented as something ghostly or otherwise artificial so as not to be confused with real-world interactions (and also to meet safety regulations).

User interfaces are customized to the user's preferences and needs, both graphically and content-wise. Filters allow users to access the information they are interested in without needing to worry about extraneous data. While AR data is typically placed in the user's normal field of vision, entoptics are not actually limited by this and may be viewed in the "mind's eye." Nevertheless, icons, windows and other interaction prompts can be layered, stacked, toggled, hidden, or shifted out of the way if necessary to interact with the physical world.

AVATARS

Every mesh represents themselves online via a digital avatar. Many people use digital representations of themselves, whereas other prefer more iconic designs. This may be an off-the-shelf look or a customized icon. Libraries of avatars may also be employed, enabling a user to switch their representation according to mood. Avatars are what other users see when they deal with you online—i.e., how you are represented in AR. Most avatars are animated and programmed to reflect the user's actual mood and speech, so that the avatar seems to speak and have emotions.

E-TAGS

Entoptic tags are a way for people to "tag" a physical person, place, or object with a piece of virtual data. These e-tags are stored in networks local to the tagged item, and move with the item if it changes location.

INFORMATION AT YOUR FINGERTIPS

The following information is always available for most mesh users in a normal habitat:

LOCAL CONDITIONS

- Local maps showing your current location, annotated with local features of personal interest (according to your personal preferences and filters) and your distance from them/directions to them. Details regarding private and restricted areas (government/hypercorp areas, maintenance/security infrastructure, etc.) are usually not included.
- Current habitat life support (climate) conditions including atmosphere composition, temperature.
- Current solar system and habitat orbit maps with trajectory plots, communication delays.
- Local businesses/services, directions, and details.

LOCAL MESH

- Public search engines, databases, mesh sites, blogs, forums, and archives, along with new content alerts.
- Syndicated public newsfeeds in a variety of formats, filtered according to your preferences.
- Sensor/spime (mostly audio-visual) feeds from any public area of the habitat.
- Private network resources (including tactical nets).
- Automatic searches for new online references to your name and other subjects of interest.
- E-tags pertaining to local people, places, or things.
- Facial/image recognition searches of public mesh/archives to match a photo/vid still.

PERSONAL INFORMATION

- Morph status indicators (medical and/or mechanical): blood pressure, heart rate, temperature, white cell count, nutrient levels, implant status and functionality, etc.
- Location, functionality, sensor feeds, and status reports of your possessions (via sensors and transmitters in these possessions).
- Access to one's life-spanning personal audio-visual/XP archive.
- Access to one's life-spanning personal file archive (music, software, media, documents, etc.).
- Credit account status and transactions.

SOCIAL NETWORKS

- Communications account status: calls, messages, files, etc.
- Reputation score and feedback.
- Social network status, friend updates.
- Updated event calendar and alerts.
- The public social network profiles of those around you.
- The location and status of those nearby and involved in the same AR games as you. ■

E-tags are viewable in AR, and can hold almost any type of data, though short notes and pictures are the most common. E-tags are often linked to particular social networks or circles within that network, so that people can leave notes, reviews, memorabilia media, and similar things for friends and colleagues.

Skinning

Since reality can be overlaid with entoptics of hyper-real quality, modern users can "skin" their reality by modifying their perceptual input. Environments around them may be modified to fit their particular tastes or mood. Need your spirits boosted? Pull up a skin that makes it seems like your outdoors, with the sun shining down, the sounds of gentle surf in the background, and butterflies drifting lazily overhead. Pissed off? Be comforted as flames engulf the walls and thunder grumbles ominously in the distance. It is not uncommon for people to go about their day, accompanied by their own personal soundtrack that only they can hear. Even olfactory and taste receptors can be artificially stimulated to experience sensations like the smell of roses, fresh air, or freshly-baked pastries. While originally developed to make "space food" less distasteful and as a method to counter space-induced cabin fever for those that weren't born in space, vast archives of aromas, tastes, and environments are available for download.

Skins do not need to be kept private, they may also be shared with others via the mesh. Tired of your cramped habitat cubicle? Decorate it with a custom-themed skin and share it with visitors to make them feel more comfortable. Found a new music track that livens up your day? Share it with others around you, so they can nod to the same beat.

Skinning can also be used for the opposite effect. Any undesired content of reality can be edited out, veiled, or censored by modern software programs or muses that engage in real-time editing. Tired of looking at someone's face? Add them to your killfile, and you'll never have to acknowledge their presence again. AR censorware is also common in some communities with strict religious or moral convictions.

Virtual Reality

Virtual reality overrides the user's physical senses and places them inside an entirely computer-generated environment called a *simulspace*. While AR is used for all common day activities and interactions, VR is used mainly for recreation (gaming, virtual tourism, escapism), socializing, meeting (when face-to-face meetings are not possible), and training. Dedicated networks with high-capacity information processing are required to render and run large and complex hyper-real simulspaces with many users, and these are often hard-wired for additional stability. Smaller simulspaces capable of hosting a smaller amount of users can be run on a smaller distributed network of linked devices. Many infomorphs and AIs effectively reside within simulspaces, and some transhumans have sworn off the physical world altogether.

Æther Jabber

Start Æther Jabber
Active Members: 2

- I have to tell you, after losing Kiri and Sal to that Exsurgent infection, my team is a lot more worried about contracting the virus from digital sources. Actually, I'd label them as paranoid. I don't think they'll ever touch any salvaged electronics again unless they're behind a zillion firewalls and the device is completely isolated and tested by a delta fork loaded with every antiviral ware we can find first. Even then, they'd rather shoot it than access directly or hook it up to an important network. After seeing what the virus did to Sal, I don't blame them.
- In our line of work, paranoia can be healthy.
- Sure, but it's also a pain in the ass. Security is always a trade-off. Firewall's gotta have something up its sleeve that I can pass along to the rest to put their guards at ease.
- Yes ... and no. It's complicated.
- I don't see why. Do we have a way of detecting and killing this thing or not?
- Sort of.
- You're killing me.
- Look. Ever since the Fall, we've had measures in place to detect and counteract Exsurgent infections and all of the other worms and malware the TITANs concocted. Firewall went to great lengths to make sure that everyone had access to the detection signatures and countermeasures—and we mean everyone. They've been incorporated in almost every commercial and open source security software released in the past decade. Every habitat in the system—well, every one with a lick of sense anyway—employs such measures in their chokepoints and mesh infrastructure.
- I sense a "but."
- Yes. The problem is that the Exsurgent virus and similar TITAN infowar worms are adaptive. They're intelligent. Even though we mostly eradicated them from our networks, new versions periodically pop up, using some new trick to get past the Firewall scans and wreak havoc. Our warning and outbreak response system has it down to a science, and such instances are usually contained.
- Usually.
- Well, there's always the chance that variants are still skipping around out there, under our radar. What's worse to contemplate, though, is that we may get another major outbreak that spreads to multiple habitats before we can contain it. That might get very, very bad, very, very quickly.

Defying Nature's Laws

A plethora of simulspace environments are available, ranging from simulations of real places to historical recreations to fantastic worlds representing almost every genre imaginable. All of these simulations are bolstered by the fact that possible scenarios are not bound by the laws of nature. The fundamental forces of reality and nature, like gravitation, electromagnetism, atmosphere, temperature, etc., are programmable in VR, allowing for environments that are completely unnatural, such as escheresque simulspace where gravity is relative to position. These *domain rules* may be altered and manipulated according to the whim of the designer.

Time itself is an adjustable constant in VR, though deviation from true time has its limits. So far, transhuman designers have achieved time dilation up to 60 times faster or slower than real time (roughly one minute equaling either one hour or one second). Time slowdown is far more commonly used, granting more time for simulspace recreational activities (more time, more fun!), learning, or work (economically effective). Time acceleration, on the other hand, is extremely useful for making long distance travel through space more tolerable.

Accessing Simulspaces

Most simulspaces can be accessed through the mesh just like any other node. Since VR takes over the user's sensorium, however, and sometimes involves time perception dilation, users are cut off from other mesh-delivered sensory input and interacting directly with other nodes. Instead, outside mesh interactions are routed through the simulspace's interface (meaning that a character may browse the mesh, communicate with others, etc. from inside a simulspace, if the domain rules allow it).

Since physical senses are overridden when a user accesses VR, most people prefer to rest their body in a safe and comfortable environment while in the simulspace. Body-fitting cushions and couches help users relax and keep them from cramping up or injuring themselves if they happen to thrash around. In case of long-term virtual sojourns (for instance, during space travel), morphs are normally retained in tanks that sustain them in terms of nutrition and oxygen. Many VR entertainment and game networks offer dedicated and hardwired physical VR cafes with private pods. Visitors rent a pod and physically jack in, using either access jacks or an ultrasonic trode net that reads and transmits brain patterns when placed on the head.

When accessing a simulspace, the user first enters an electronic buffer "holding space" known as a white room. Here the user chooses a customizable avatar-like persona to represent them in the simulspace, called a simulmorph. From this point, the user immerses themself in the virtual reality environment, effectively becoming their simulmorph.

Experience Playback

Every morph with mesh inserts has the capability to transmit or record their experiences, a form of technology called experience playback, or XP. Since the first programs were developed that provide a simple interface to "snapshot" ones experiences, it has become extremely popular to share XP with friends and social networks, or with the online public at large.

The level of experiences depends on how much of the recorded sensory perception is kept when the clip is made. Full XP includes exteroceptive, interoceptive, and emotive tracks. Exteroceptive tracks include the traditional senses of sight, smell, hearing, touch, and taste that process the outside world. Interoceptive tracks include senses originating within the body, such as balance, a sense of motion, pain, hunger and thirst, and a general sense of the location of one's own body parts. Emotive tracks include the whole spectrum of emotions which can be aroused in a transhumans. Due to the biological requirements (neuronal and endocrine systems) of expressing emotions, hardcore XP aficionados deem only the experience in and from biomorphs as the real deal.

Mesh Uses

There are many reasons people use the mesh. The foremost is communication: voice and video calls (typically displaying avatars rather than actual video), electronic messaging (e-mail, instant messaging, microblogging), and file and data transfers. Socializing is also key, handled via social and reputation networks, personal profiles, lifelogging, chats and conferences (both AR and VR), and discussion groups and forums. Information gathering is also at the top, whether its browsing the popular Solarchive or other databases and directories, tapping the latest newsfeeds, browsing mesh sites, tracking your friends, taking lessons in VR, or looking up just about anything conceivable. Recreation rounds out the pack, covering everything from gaming (AR and VR) to experiencing other people's lives (XP) to VR tourism and club-hopping.

Personal Area Networks

Since everything a person carries is meshed, most people maintain personal area networks that route all of these devices through their mesh inserts or ecto, which acts as a hub. This is both a security measure, ensuring they maintain control over their own accessories, and a convenience factor, as it focuses all of the controls in one place.

Virtual Private Networks

Virtual private networks (VPNs) are communications networks tunneled through the mesh, which are dedicated for a specific group of people. The primary use of VPNs is to create privacy and security for its users, and so they typically use security

features such as ego authentication and public key encryption. VPNs are regularly used to mesh mobile offices into a corporate network or mesh people together who work on or contribute a certain project. Other VPNs—particularly social networks and rep networks—operate with minimal security features, simply serving as a network of specific users within the mesh and making it easier to keep in touch, transfer information, make updates, and so on. Most VPNs come as specialized software suites that run custom environmental software that integrates into the user's normal mesh interface and AR.

Social Networks

Social networks are the fabric of the mesh, weaving people together. They are the means by which most people keep in contact with their friends, colleagues, and allies, as well as current events, the latest trends, new memes, and other developments in shared interests. They are an exceptionally useful tool for online research, getting favors, and meeting new people. In some cases, they are useful for reaching or mobilizing masses of people (as often illustrated by anarchists and pranksters). There are thousands of social networks, each serving different cultural and professional interests and niches. Most social networks allow users to feature a public profile to the entire mesh and a private profile that only those close to them can access.

Reputation plays a vital part in social networks, serving as a measure of each person's social capital. Each person's reputation score is available for lookup, along with any commentary posted by people who favored or disfavored them and rebuttals by the user. Many people automate their reputation interactions, instructing their muse to automatically ping someone with a good review after a positive action and to likewise provide negative feedback to people with whom the interaction went poorly.

Mobile Offices

Due to the lack of office space and the wireless accessibility of most information, most businesses now operate virtually, with few or no fixed offices or even assets. Instead, individuals have become their own mobile office. Bit-pushers and bureaucrats like hypercorp executives, clerical workers, accountants, and researchers—as well as innovators like artists, writers, engineers, and designers—work wherever they want to.

The most prominent example of this phenomenon are the bankers of the Solaris hypercorp. Each employee acts as a mobile one-person banking office, managing transactions via Solaris's robust VPN.

On rare occasions, office environments are run in simulspace with time dilation to maximize efficiency. Since this requires the workers to access a centralized wired network and leave their bodies unattended while accessing simulspace, however, it requires an extra level of physical security that is typical only of some governmental installations and corporate habitats.

Islands in the Net

In the time of *Eclipse Phase*, information can become outdated quite fast, and the accessibility of new information depends on your location. It's easy to keep up-to-date on your local habitat/city or planetary body, but keeping current on events elsewhere is typically reliant on the speed of light.

If you happen to be in a station in the Kuiper Belt, on the edge of the solar system 50 astronomical units from the terrestrial inner planets, waiting on a message from Mars, the signal carrying the message will be roughly seven hours old when it reaches you. Of course it will only reach you that fast if you are using quantum farcast, which is only limited by the speed of light (not to mention rare and expensive in most habitats). If you are not using a quantum farcaster, the signal may take even longer and is prone to interference and noise, deteriorating the quality and possibly losing some of the content, especially over major distances. Whenever you start dealing with communication between habitats, you have to factor in the light-speed lag, the amount of time it takes even the fastest transmission to reach you. This lag works both ways, so trying to hold a conversation with someone just 5 light-seconds away means that you're waiting at least 10 seconds to get the reply to whatever you just said. For this reason, AR and VR communications are almost always conducted locally, while standard messaging is used for nonlocal communications. For detailed discussions, it is often simpler to send a fork of yourself (p. 273) to have the conversation and then return.

Quantum-entanglement communicators (p. 314) are one solution to this light-speed lag, although a burdensome and expensive one. QE comms allow for faster-than-light communication to an entangled communicator, though each transmission uses up a precious amount of quantum-entangled bits, which are in limited supply.

Transmissions made between habitats almost always occur via each station's massive data relays, where they are then distributed into the local mesh. This bottleneck is often used by authoritarian habitats to monitor data transmissions and even filter or censor certain public non-encrypted content. Some messages are also prioritized over others, potentially meaning further delays.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

The method of transmission between habitats also sometimes matters. Radio and neutrino broadcasts can be intercepted by anyone, whereas tight-beam laser or microwave links are specifically used as a point-to-point method that minimizes interception and eavesdropping. The use of quantum farcasting using neutrino systems is completely secure, however, and is the most frequently-used intra-habitat link.

What these lags, bottlenecks, and prioritizations mean is that some news and data takes a particularly long-time to trickle from one local mesh network to another, passing slowly from habitat to habitat. This means that there are always gradients of information available to different local mesh networks, typically depending on proximity and the importance of the information. Some data even gets lost along the way, never making it further than a habitat or two before it is lost in the noise. The only way to retrieve such information is to track it down to its source.

Darkcasts

"Darkcasts" are ranged communications that go outside of legal and approved channels. Since certain habitats have strict regulations on transmission content, forking, egocasting, infomorphs, muse abilities, and AGI code, underworld groups like the ID crew profit by offering illegal data transmission services. Primarily used for censored data and banned content (like illegal XPs or malware), local organized crime factions also often offer egocasting services complete with resleeving and leasable morphs, allowing egos that prefer discretion to enter or leave a habitat without drawing attention. Though such authorities hunt down these darkcast networks whenever they get a chance, many habitats have a sophisticated darkcast infrastructure that makes use of decoys, temporary communications lines, relays, and regular transmitter relocation—not to mention judicious bribing and blackmailing.

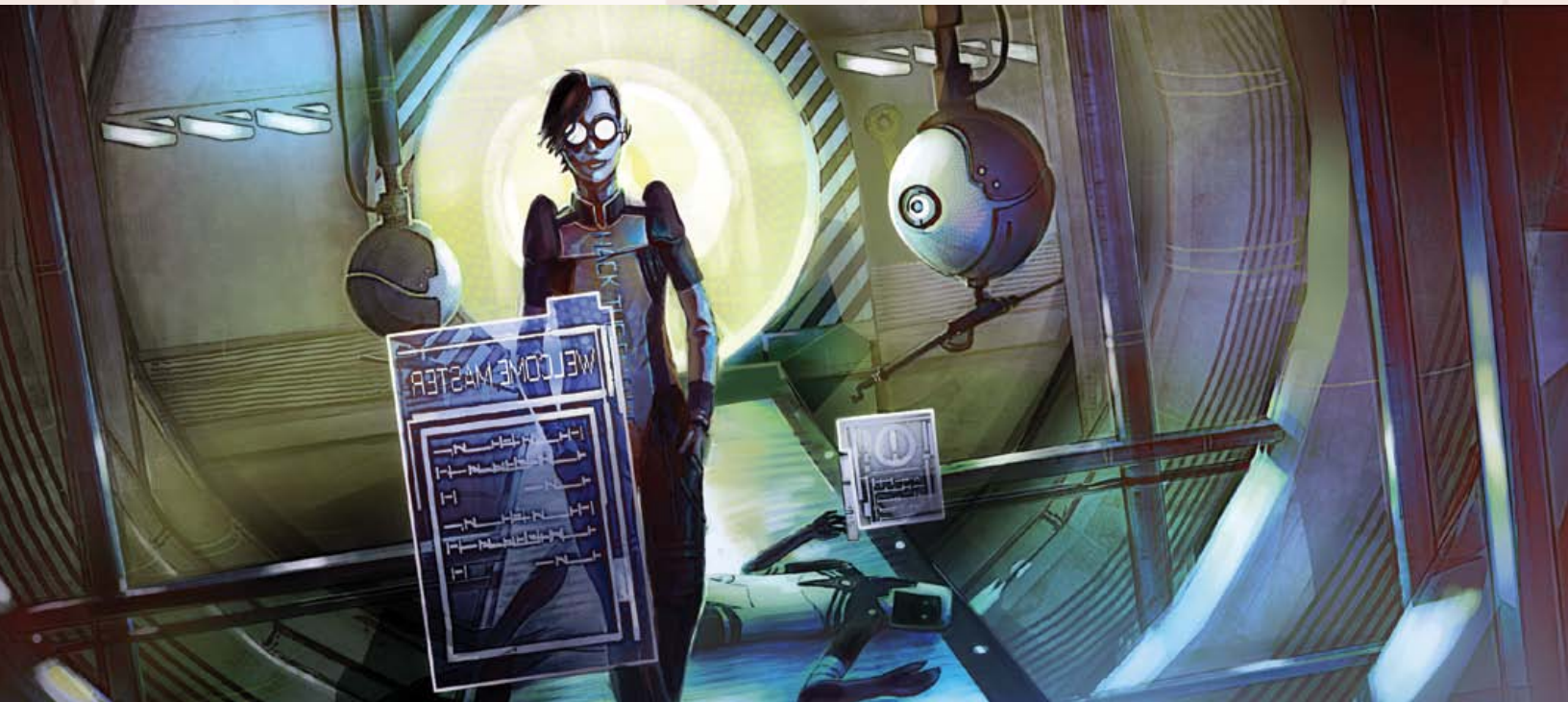
Mesh Abuses

As with all things, the mesh has its darker side. At the basic level, this amounts to flamewar-starting trolls, stalkers, or griefers whose intent is to mess with others for a laugh. At the more organized level, it expands to illicit or criminal enterprises that utilize the mesh, such as selling black/snuff/porn XPs, illegal software, pirated media, or even egos. The most infamous threats—thanks both to the Fall and to the continuous sensationalism applied by media and stern authorities—are, of course, malware and hackers. Given the capabilities of modern hackers and the vulnerability of many habitats—where damage to life support systems could kill thousands—the threat may not be over-exaggerated.

Hackers

Whether individuals who are genuinely interested in exploring new technologies and seeking ways to break them in order to make them better, hacktivists who utilize the mesh in order to undermine the power of authorities, or "black hats" who seek to circumvent network security for malicious or criminal intent, hackers are a permanent fixture of the mesh. Unauthorized network break-ins, infiltration of VPNs, muse subversion, cyberbrain hijacking, data theft, cyber-extortion, identity fraud, denial of service attacks, electronic warfare, spime hijacking, entoptic vandalism—these are all common occurrences on the mesh. Thanks to smart and adaptive exploit programs and assisting muses, even a moderately skilled hacker can be a threat.

In order to counter hacking attempts, most people, devices, and networks are protected by a mix of access control routines, automated software intrusion prevention systems, encryption, and layered firewalls, typically overseen by the user's muse who plays the role of active defender. Extremely sensitive



systems—such as space traffic control, life support, power systems, and hypercorporate research facilities—are usually limited to isolated, tightly-controlled, heavily-monitored, hard-wired networks to minimize the risk of intrusion from snoopers and saboteurs. various countermeasures may be applied against such intruders, ranging from locking them out of the system to tracking them back and counterhacking.

MALWARE

The number of worms, virii, and other malware programs that ripped through computer systems during the Fall was staggering. Many of these were part of the netwar systems prepared by old Earth nation-states and corporations and unleashed on their enemies. Others were products of the TITANs, subversive programs that even the best defenses had trouble stopping. Even 10 years later, many of these are still reappearing, brought back to life by the accessing of some long-forgotten data cache or the accidental infection of a scavenger mucking through old ruins. New ones pop every day, of course, many of them programmed by criminal hacker outfits, while others that enter circulation are modifications and variations of suspected TITAN designs, perhaps implying that certain parties are intentionally tinkering with this code and releasing it into the wild. Rumors and whispers circulate that some of these TITAN worms are even more potent and frightening than previously hinted at, with stunning adaptive capabilities and intelligence. These rumors are steadfastly denied by authority figures and security experts ... who then quietly turn around and do their best to ensure that their own networks remain safe.

AIs AND INFOLIFE

Self-aware helper programs were originally designed and realized to augment transhuman cognitive abilities. These specialized-focus AIs were then developed into the more complete, independent digital consciousnesses known as AGIs. The further evolution of these digital life forms into seed AIs unfortunately led to the emergence of the TITANs and then the Fall. This created a rift in transhuman society as fear and prejudice turned popular opinion against unrestricted AGIs, an attitude of mistrust that still lingers to this day.

AIs

The term AI is used to refer to narrow, limited-focus AIs. These digital minds are expert programs with processing capabilities equal to or even exceeding that of a transhuman mind. Though they have a personality matrix with individual identities and character, and though they are (usually) conscious and self-aware, their overall complexity and capabilities are limited. The programmed skills and abilities of AIs are typically very specific in scope and aligned towards a particular function, such as piloting a vehicle, facilitating mesh searches, or coordinating the functions of some habitat sub-system. Some AIs, in fact, can only barely be considered sapient, and their emotional programming is usually narrow or non-existent.

AIs have a number of built-in safety features and programmed limitations. They must serve and obey the instructions of authorized users within their normal functioning parameters and (in the inner system at least) must also obey the law. They lack self-interest and self-initiative, though they have limited empathy and may be programmed to anticipate the needs and desires of users and pre-emptively take action on their behalf. Perhaps most importantly, however, is that their psychological programming is specifically based on universal human modes of thought and an understanding and support of transhuman goals and interests. This is part of an initiative to engineer so-called "friendly AIs," who are programmed with sympathy towards transhumanity and all life and seek out their best interests.

In most societies, basic AIs are considered "things" or property rather than people and are accorded no special rights.

MUSES

Muses are a specific type of AI designed to function as a personal aide and companion. Most people in *Eclipse Phase* have grown up with a muse at their virtual side. Muses tend to have a bit more personality and psychological programming than standard AIs and over time they build up an extensive database of their user's preferences, likes and dislikes, and personality quirks so that they may more effectively be of service and anticipate needs. Muses generally have names and reside within the character's mesh inserts or ecto, where they can manage the character's personal area network, communications, data queries, and so on.

AGIs

AGIs are complete and fully operational digital consciousnesses, self-aware and capable of intelligent action at the same level as any transhuman. Most have full autonomy and the capacity for self-improvement by a processing similar to learning—a slow optimization and expansion of their code that features programmed limitations to prevent it from achieving the self-upgrading capabilities of seed AIs. They have more fully-rounded personalities and emotional/empathic abilities than standard AIs, due in part to a development process where they are literally raised within a VR simulation analogous to the rearing of transhuman children, and so are more fully socialized. As a result, they have a fairly human outlook, though some deviation is to be expected, and sometimes is apparent in great degrees. Despite this attempt to humanize AGIs, they do not have the same evolutionary and biological origins that transhumans have, and so their social responses, behavior, and goals are sometimes off-mark or decidedly different.

AGIs bear the social stigma of their non-biological origin and are often met with bias and mistrust. Some habitats have even outlawed AGIs or subject them to

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

WHAT YOUR MUSE CAN DO FOR YOU

- Make Research Tests to find information for you.
- Scan newsfeeds and mesh updates for keyword alerts.
- Monitor your mesh inserts/ecto/PAN and slaved devices for intrusion.
- Launch countermeasures against intruders.
- Teleoperate and command robots.
- Monitor your Rep score and alert you to drastic changes.
- Automatically provide feedback for other people's Rep scores.
- Run audio input through an online, real-time language translation system.
- Put you in privacy mode and/or proactively stealth your wireless signal.
- Falsify/fluctuate your mesh ID.
- Track people for you.
- Anticipate your needs and act accordingly, pre-empting your requests. ■

NON-STANDARD AIs AND AGIs

Not all AIs and AGIs were programmed and designed to adhere to human modes of thought and interests. Such creations are illegal in some jurisdictions, as they are considered a potential threat. Several hypercorps and other groups have initiated research into this field, however, with varying results. In some cases these digital minds are so different from human mindsets that communication is is impossible. In others, enough crossover exists to allow limited communication, but such entities are invariably quite strange.

Rumors persist that some AIs began their life as transhuman backups or forks, who were then heavily edited and pruned down to AI-level intelligences. ■

strict restrictions, forcing such infolife to hide their true natures or illegally darkcast to enter habitats or stations. AGI mind programming emulates transhuman brain patterns sufficiently well that they can be sleeved into biomorphs if they choose.

SEED AI

Due to the capability for unlimited self-upgrading, seed AIs have the capacity to grow into god-like digital entities far beyond the level of transhumans or AGIs. They require massive processing power and are always increasing in complexity due to a continual metamorphosis of their code. Seed AIs are too complex to be downloaded into a physical morph, even a synthetic one. Even their forks require impressive processing environments, so doing so is rare. In fact, most seed AIs require the capacities of hard-wired networks to survive.

The only seed AIs known to the public are the infamous TITANs who are widely regarded as being responsible for the Fall. In truth, the TITANs were not the first seed AIs and will probably not be the last. There are no publicly known TITANs (or other seed AIs) currently residing in the solar system, despite circulating rumors of damaged TITANs who were left behind on Earth, speculated TITAN activity under the clouds of Venus, or whispers of new seed AIs hidden away in secret networks on the edges of the system.

TRANSHUMAN INFOMORPHS

For thousands of infugees, embodying a digital form is their only choice. Some of these are locked away in mesh-separated virtual holding areas or even inactive storage, locked up by habitats who didn't have enough resources to handle them. Others are imprisoned inside simulspaces, killing time in whatever way they choose until an opportunity to resleeve comes their way. Quite a few are free to roam the mesh, interacting with physically-sleeved transhumans, keeping up with current events, and sometimes even forming activist political blocs to campaign for infomorph rights or interests. Still others find or are forced into virtual careers, slaving away in the digital sweatshops of hypercorps or criminal syndicates. A few find companions who are willing to bring them along in their ghostrider module and become an integral part of their lives, much like a muse.

Some transhumans willingly choose the infomorph lifestyle, either for hedonism (custom simulspace and VR games until the end of time), escapism (loss of a loved ones leads them to write off physical concerns for awhile), freedom (go anywhere the mesh takes you—some have even beamed copies of themselves to far distant solar systems, hoping someone or something will receive their signal when they arrive), experimentation (forking and merging, running simulations, and weirder things), or because it is ensured immortality.

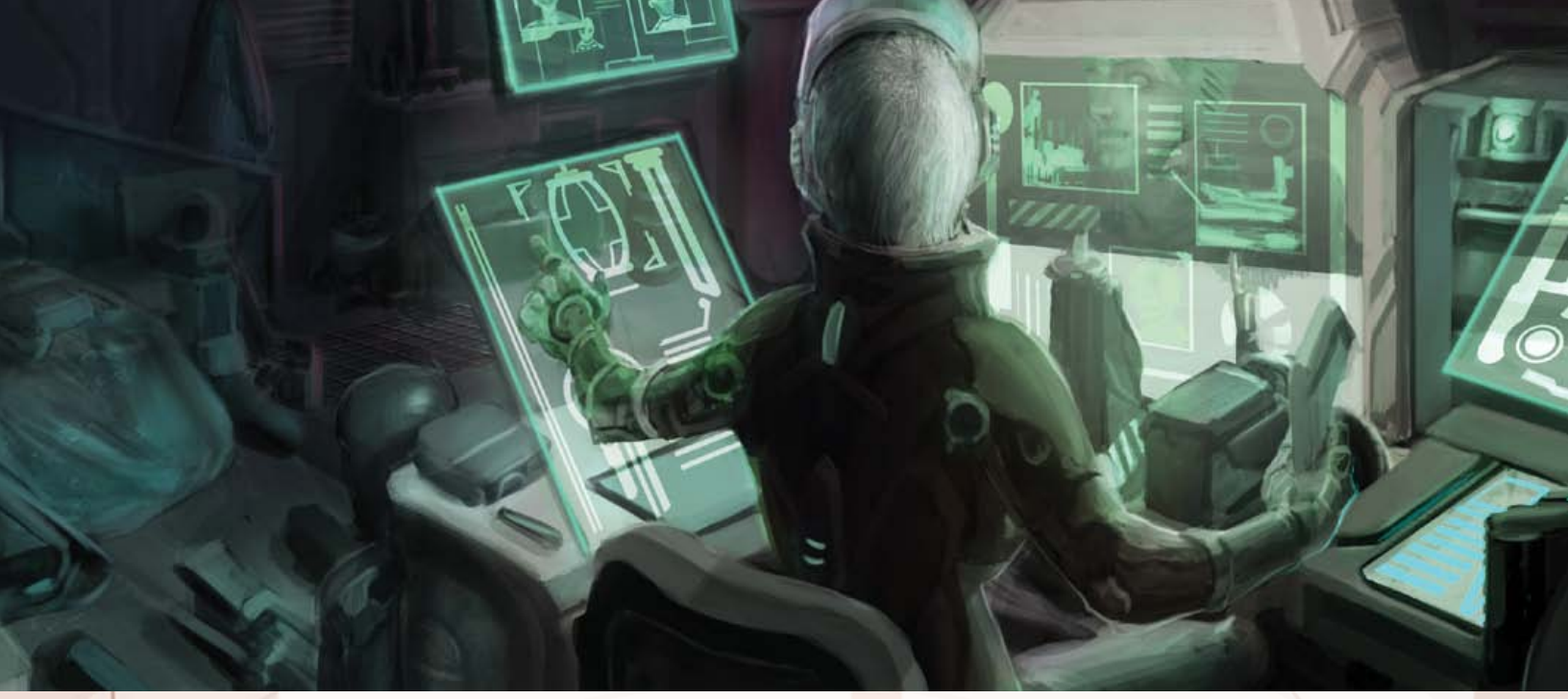
EVERYDAY MESH MECHANICS

Everyone (and everything) is meshed in *Eclipse Phase*. The following rules and concerns apply to standard mesh use. Note that various mesh-related terms are explained, along with other *Eclipse Phase* concepts, under *Terminology*, p. 25.

MESH INTERFACE

Characters have a choice of which interface to use, the entoptic interface of basic mesh inserts or the haptic interface of an ecto.

The basic mesh inserts used by most users allows them to interact with AR, VR, XP, and the mesh at the



speed of thought. This is the default method of mesh use and suffers no modifiers. They are, however, more prone to visual and operative impairments (virtual illusions, denial-of-service effects) when hacked.

Characters who use the haptic interface of an ecto, however, suffer a slight delay on their mesh activities due to manual toggling, physical controls, and physical interaction with virtual controls. In game terms, the use of haptics imposes a –10 skill modifier to all mesh tests where timing is rushed (particularly combat and or any sort of mesh use under pressure). Additionally, increase the timeframe for mesh-based Task Actions by +25% when interfacing via haptics. On the positive side, ectos can be easily removed and discarded if compromised—for this reason, many hackers and security-conscious users use an ecto in addition to their mesh inserts, routing all high-risk traffic through the ecto as an extra line of defense.

Mesh ID

Every mesh user (and, in fact, every device) has a unique code called their *mesh ID*. This ID distinguishes them from all other users and devices, and is the mechanism by which others can find them online, like a combination phone number, email address, and screen name. Mesh IDs are used in almost all online interactions, which are often logged, meaning that your activities online leave a datatrail that can be tracked (p. 251). Fortunately for Firewall sentinels and others who value their privacy, their are ways around this (see *Privacy and Anonymity,* p. 252). AIs, AGIs, and infomorphs also each have their own unique mesh ID.

Accounts and Access Privileges

Devices, networks (such as PANs, VPNs, and hardwired networks), and services require that every user that accesses them does so with an account. The account serves to identify that particular user, is linked to their mesh ID, and determines what access privileges they have on that system. There are four types of accounts: *public*, *user*, *security*, and *admin*.

Public Accounts

Public accounts are used for systems that allow access (or access to parts of their system) to anyone

ELITE EXPLOITS

The mesh gear quality rules allow for players and gamemasters to make a distinction between software tools, separating the open-source, stock-repertoire exploit tools of amateur hackers from cutting-edge military-grade penetration wares. While many characters will simply buy or otherwise acquire such programs, a hacker with the do-it-yourself ethic is likely going to want to design their own personalized applications, based on their playbook of closely-guarded intrusion/counterintrusion methods.

To reflect the efforts a hacker character makes by designing, coding, and modifying their own customized personal arsenals, they may make a Task Action Programming Test with timeframe of 2 weeks. If they succeed, they upgrade one of their software tools by one level of quality (i.e., from +0 to +10). Multiple Programming Tests can be made to enhance a program, but for each level add the target modifier as a negative modifier to the test (so upgrading a +0 suite to +10 is a –10 modifier on the Programming Test).

Similarly, at the gamemaster's discretion, software tools—particularly exploits—may degrade in quality over time, reflecting that they have become outdated. As a general rule, such programs should degrade in quality about once every 3 months. ■

on the mesh. Public accounts do not require any sort of authentication or login process, the user's mesh ID is enough. These accounts are used to provide access to any sort of data that is considered public: mesh sites, forums, public archives, open databases, social network profiles, etc. Public accounts usually have the ability to read and download data, and sometimes to write data (forum comments, for example), but little else.

User Accounts

User accounts are the most common accounts. User accounts require some form of authentication (p. 253) to access the device, network, or service. Each user account has specific access privileges allotted to it, which are tasks the user is allowed to perform on that system. For example, most users are allowed to upload and download data, change basic content, and use the standard features of the system in question. They are not, however, usually allowed to alter security features, add new accounts, or do anything that might impact the security or functioning of the system. As some systems are more restrictive than others, the gamemaster decides what privileges each user account provides.

Security Accounts

Security accounts are intended for users that need greater rights and privileges than standard users, but who don't need control over the entire system, such as security hackers and muses. Security access rights usually allow for reading logs, commanding security features, adding/deleting accounts, altering the data of other users, and so on.

Admin Accounts

Admin accounts provide complete control over the system. Characters with admin rights can do everything security accounts can, plus they can shut down/reboot the system, alter access rights of other users, view and edit all log files and statistics, and stop or start any software available on the system.

Mesh Gear Quality

Not all gear is created equal, and this is especially true of computers and software, where new innovations are made on a daily basis. Keeping up-to-date with the last specs isn't too difficult, but on occasion the characters will get their hands on some old relic or find themselves in secluded or decrepit places with local systems and gear that aren't up to date. Likewise, they may acquire some cutting-edge gear straight from the labs or may run up against a state-of-the-art installation with next-generation defenses. To reflect this, mesh tests can be modified according to the state of the hardware or software being used, as noted on the Mesh Gear Modifiers table

Computer Capabilities

Computerized electronics can be broken down into three simple categories: *peripherals, personal computers,* and *servers*. In game terms, all are collectively referred to as *devices*.

Peripherals

Peripherals are micro-computerized devices that don't need the full processing power and storage capacity of a personal computer, but benefit from online networking and other computerized functions. Peripherals may run software, but the gamemaster may decide that too many programs (10+) will degrade the system's performance. AIs and infomorphs are incapable of running on peripherals, though they may access them. Peripherals only have public and user accounts (users accounts include security and admin functions; see p. 247).

Common peripherals include: spimes, appliances, most cybernetic implants, individual sensors, and weapons.

Personal Computers

Personal computers account for a wide range of computer types, but essentially account for anything that has the capabilities evolved from generations and generations of personal computers to meet an everyday user's needs. Most personal computers are portable and tailored for use by multiple users at a time. Personal computers may run one AI or infomorph at a time. They may not run simulspace programs.

Common personal computers include: mesh inserts, ectos, and vehicles.

Servers

Servers have much greater processing power and data management capabilities than personal computers. They are capable of handling hundreds of users, multiple AIs and infomorphs, and they may run

MESH GEAR MODIFIERS

MODIFIER	SOFTWARE/HARDWARE
–30	Bashed-up devices, no-longer-supported software, relics from Earth or the early expansion into space
–20	Malfunctioning/inferior devices, buggy software, pre-Fall technology
–10	Outdated and low quality systems
0	Standard ectos, mesh inserts, and software
+10	High-quality goods, standard security-grade products
+20	Next-generation devices, advanced software
+30	Newly-developed, state-of-the-art, top-of-the-line technology
>+30	TITANs and/or alien technology

simulspace programs. Though few are portable, some of them come close.

SOFTWARE

A wide manner of software is available for mesh users, from firewalls and AIs to hacking and encryption tools to tacnets and skillsofts. These programs are listed on p. 331 of the *Gear* chapter. Like other gear, software may enable a character to perform a task they could not otherwise. The quality of the software may also be a factor, applying a modifier as appropriate (see *Mesh Gear Quality,* p. 247).

Some software is equipped with digital restrictions to prevent it from being copied and shared with others. These restrictions may be defeated, but it is a time-consuming task, requiring a Task Action Programming Test with a timeframe of 2 months. Thanks to the efforts of the open source movement and numerous individual software pirates, however, quite a bit of software is available free or online. The availability of pirated software or freeware will depend on the local habitat and legalities. Finding it may be a matter of a simple search, or it may require some use of reputation to find someone who has it. Usually there is at least one local crime syndicate that is willing to help you out—for a price.

SOFTWARE COMPATIBILITY

In most instances, software compatibility is not going to be an issue for characters. Gamemasters who like it as a plot device, however, can introduce compatibility problems in certain cases, whether this is done to increase drama, slow the characters down, or create obstacles that they must overcome. Such incompatibilities are more likely to arise when dealing with outdated systems or devices, or at least ones that are unlikely to have the latest patches and software updates. Incompatibilities can also be used as a drawback to acquiring software from untrustworthy sources.

Conflicting software issues are going to have one of two effects. Either the software will simply not work with certain devices, or it will inflict a –10 to –30 modifier due to instabilities and glitches. If the gamemaster allows it, a character may reduce this penalty by patching up the software, requiring a successful Programming Task Action (1 day). For every 10 points of MoS, reduce the incompatibility modifier by 10.

TRAFFIC FILTERS AND MIST

Mesh networks and AR are overrun with yottabytes of information. Though mesh inserts and ectos can deal with a lot of data traffic in terms of bandwidth and processing power, using filters to weed out unwanted traffic is quite simply a necessity. This is especially true of AR, where unwanted entoptics can clutter your vision and distract you. Nevertheless, entoptic spam of many flavors—advertisements, political screeds, porn, scams—do their best to bypass these filters, and in many areas the amount of unfiltered entoptics can be overwhelming—a phenomenon colloquially referred to as "mist."

At the gamemaster's discretion, mist can interfere with a user's sensory perceptions. This modifier can range from –10 to –30, and in some cases might be so distracting as to affect all of a character's actions. To lift the data fog, a character or muse must adjust their filter settings by succeeding in an Interfacing Test modified by the mist modifier. Alternately, the character can completely disable AR input, but this is likely to impede them in other ways.

SLAVING DEVICES

For ease of use, as well as for privacy and security purposes, one or more devices may be slaved to each other. One device (usually the character's mesh inserts or ecto) takes the role of *master,* while the other device(s) takes the role of *slave*. All traffic to and from slaved devices is routed through the master. This allows a slaved device to rely on the master's security features and active monitoring. Anyone that wants to connect to or hacked into a slaved device is rerouted to the master for authentication and security scrutiny. Slaved devices automatically accept commands from their master device. This means that a hacker who penetrates a master system can legitimately access and issue commands to a slaved device, assuming their access privileges allow for it.

PANs are typically formed by slaving all of a character's devices to their ecto or mesh inserts. Similarly, individual components of a security system (doors, sensors, etc.) are usually slaved to a central security node that serves as a chokepoint for anyone hoping to hack the system. The same is often true for other networks and facilities.

ISSUING COMMANDS

Characters may issue commands to any slaved device or teleoperated bot (see *Shell Remote Control,* p. 196) with a Quick Action. Each command counts separately, unless the character is issuing the same command to multiple devices/drones.

DISTANCE LAG

Anytime you extend your communications over great distances, you run into the risk of time lags. Most communications are restricted to "local" for this reason, which generally means your local habitat and any others within 50,000 kilometers. On planetary bodies like Mars, Venus, Luna, or Titan, "local" encompasses all of the habitats and linked mesh networks on that planetary body.

If a character is searching the mesh beyond their local area, the most efficient way is to transmit a search AI (usually a copy of your muse) or a fork to the nonlocal area, which will then run its search and return completed results. This process does, however, add to the time of transmission to the timeframe (i.e., searching the mesh of a station 10 light-minutes away adds 20 minutes to the search as the search is transmitted over and the results are transmitted back). Since long-distance communications are sometimes interfered with

or bumped for higher-priority items, the gamemaster can increase this time at their discretion. If the research involves correlation and fine-tuning the search parameters based on data accumulated from different locals, the timeframe may be exponentially increased due to the need for back-and-forth interaction.

If the character is simply communicating with or accessing non-local networks, an appropriate time lag must be introduced between communications and actions. The effects of this lag are largely up to the gamemaster, as fitting current distances and other factors.

Accessing Multiple Devices

Meshed characters may connect to and interact with numerous devices, networks, and services simultaneously. There is no penalty for doing this, but the character may only focus on one system at a time. In other words, you may only interact with one system at a time, though you may also switch between them freely, even within the same Action Phase. You could, for example, spend several Quick Actions to send a message with your ecto, tell your spime oven at home to start cooking dinner, and look up a friend's updated profile on a social network. You may not, however, hack into two separate systems simultaneously.

Note that you may send the same command to multiple slaved devices or teleoperated drones with the same Quick Action, as noted above.

Online Research

The Research skill (p. 184) represents a character's ability to track down information in the mesh. Such information includes any type of digitized data: text, pictures, vids, XP, sensor feeds, raw data, software, etc. This data is culled from all manner of sources: blogs, archives, databases, directories, social networks, rep networks, online services, forums, chat rooms, torrent caches, and regular mesh sites of all kinds. Research is conducted using various public and private search engines, both general and specialized, as well as data indices and search AIs.

Research has other uses as well. Hackers use it when looking for specific information on a network or device on which they have intruded. Likewise, since everyone inevitably uses and interacts with the mesh, Research skill is also a way to identify, backtrack, and/or gather information on people as long as they have not hidden their identity, worked anonymously, or covered their identity with a shroud of disinformation.

Search Challenges

Due to the sheer amount of data available, finding what you're looking for may sometimes seem a daunting task. Thankfully, information is fairly well organized, thanks to the hard work of "spider" AIs that cruise the mesh and constantly update data and search indices. Additionally, information on the mesh is tagged with semantics, meaning that it's presented with code that allows a machine to understand the *context* of that information as well as a human reader would. This helps AIs and search software correlate data more efficiently. So finding the data is usually not as difficult as analyzing it and understanding it. Finding specialized or hidden info or correlating data from multiple sources is usually the real challenge.

Perhaps a larger issue is the amount of incorrect data and misinformation online. Some data is simply wrong (mistakes happen) or outdated, but the nature of the mesh means that such things can linger on for years and even propagate far and wide as they are circulated without fact-checking. Likewise, given the amount of

Search Capabilities

Online research in Eclipse Phase is not the same as just googling something. Here are five ways in which it is vastly improved:

Pattern Recognition: Biometrics and other forms of pattern recognition are efficient and intelligent. It is not only possible to run image recognition searches (in real-time, via all available spimes and sensor feeds), but to search for patterns such as gait, sounds, colors, emotive displays, traffic, crowd movement, etc. Kinesics and behavioral analysis even allow sensor searches for people exhibiting certain behavioral patterns, such as suspicious loitering, nervousness, or agitation.

Metadata: Information and files online come with hidden data about their creation, alteration, and access. A photo's metadata, for example, will note what gear it was taken on, who took it, when, and where, as well as who accessed it online, though such metadata may be easily scrubbed or anonymized.

Data Mash-Ups: The combination of abundant computing, archived data, and ubiquitous public sensors enable intriguing correlations to be drawn from data that is mined and collated. In the midst of a habitat emergency such as a terrorist bombing, for example, the ID of everyone in the vicinity could be scanned, compared to data archives to separate out those who have a history of being in the vicinity at that particular time, with those remaining checked against databases of criminal/suspect history and their recorded actions analyzed for unusual behavior.

Translation: Real-time translation of audio and video is available from open source translation bots.

Forecasting: A significant percentage of what people do on any day or in response to certain situations conforms to routines, enabling easy behavioral prediction. Muses take advantage of this to anticipate needs and provide whatever is desired at the right moment and in the right context. The same logic applies to actions by groups of people, such as economics and social discourse, making predictions markets a big deal in the inner system. ■

transparency in modern society, some entities actively engage in disinformation spreading in order to clutter the mesh with enough falsehoods that the truth is hidden. Two factors help to combat this, the first being that data sources themselves have their own reputation scores, so that untrustworthy or disreputable sources can be identified and ranked lower in search results. Second, many archives take advantage of crowdsourcing—that is, harnessing the collaborative power of mesh users (and their muses) everywhere—to verify data integrity so that these sites are dynamic and self-correcting.

HANDLING SEARCHES

Online research is often a crucial element of *Eclipse Phase* scenarios, as characters take to the mesh to research backgrounds and uncover clues. The following suggestions present a method of handling research that does not rely solely on dice rolls and integrates it with the flow of the plot.

First, common and inconsequential information should be immediately available without requiring a roll at all. Most characters rely on their muses to handle searches for them, passing on the results while the character focuses on other things.

For searches that are more detailed, difficult, or central to the plot, a Research Test should be called for (made either by the character or their muse). This test indicates the process of finding links to and/or accumulating all data that may in fact be relevant to the search topic. This test should be modified as appropriate to the obscurity of the topic, ranging from +30 for common and public topics to –30 for obscure or unusual intel. This initial search has a timeframe of 1 minute. If successful, it turns up enough data to give the character a basic overview, perhaps with cursory details. The gamemaster should use the MoS to determine the depth of the data provided on this initial excursion, with an Excellent Success providing some bonus details. Similarly, a Severe Failure (MoF 30+) may result in the character working with data that is incorrect or intentionally misleading.

The next step is not so much accumulating links and data as it is analyzing and understanding the information acquired. This requires another Research Test, again modified by the obscurity of the topic. If the gamemaster allows it, complementary skills (p. 173) may apply to this test, providing bonus modifiers (for example, an understanding of Academics: Chemistry would help research the effects of a strange drug). Muses may also perform this task, though their skills are typically inferior. As above, success determines the quality and depth of the analysis, with an Excellent Success providing the full story and potential related issues and a Severe Failure marking completely incorrect assumptions. The timeframe for this phase of research largely depends on two factors: the amount of data being analyzed and the importance to the storyline. Gamemasters

need to carefully measure out their distribution of intel and clues to players. Give them too much too soon, and they may spoil the plot. Fail to give them enough, and they may get frustrated or pursue dead ends. Timing is everything.

Real-Time Searches

Characters may also set up ongoing mesh scans that will alert them if any relevant information comes up new or updated, or is somehow changed. This is a task usually assigned to muses for continuous oversight. Whenever such data arises, the gamemaster secretly makes a Research Test, modified by the obscurity of the topic. If successful, the update is noted. If not, it is missed, though the gamemaster may allow another test if and when the topic reaches a wider range of circulation or interest.

Hidden Data

It is important to remember that not everything can be found online. Some data may only be acquired (or may be more easily gotten) by asking the right people (see *Networking,* p. 286). Information that is considered private, secret, or proprietary will likely be stored away behind VPN firewalls, in off-mesh hardwired networks, or in private and commercial archives. This would require the character to gain access to such networks in order to get the data they need (assuming they even know where to look).

It's worth noting that some entities send out AIs into the mesh with the intent of finding and erasing data they'd rather hide, even if this requires hacking into systems to alter such information.

Scanning, Tracking, and Monitoring

Most users leave traces of their physical and digital presence all throughout the mesh. Accounts they access, devices with which they interact, services they use, entoptics they perceive—all of these keep logs of the event, and some of these records are public. Simply passing nearby some devices is enough to leave a trail, as near-field radio interactions are often logged. This electronic datatrail can be used to track a user, both to ascertain their physical location or to note their online activities.

Wireless Scanning

To interface with a wireless device or network, whether to establish a connection or for other purposes, the target device/network must be located first. To locate an active node, it's wireless radio transmissions must be detected. Most wireless devices automatically scan for other devices in range (see *Radio and Sensor Ranges,* p. 299) as a matter of course, so no test is required. This means that it's trivial for any character to pull up a list of the wireless devices and networks around them, along with associated mesh IDs. Likewise, a muse or device can be instructed to alert the user when a new signal (or a specific user) comes into range.

Detecting stealth signals (p. 252), however, is a bit more challenging. To detect a stealthed signal, the scanning party must actively search for such signals, taking a Complex Action and making an Interfacing Test with a –30 modifier. If successful, they detect the hidden emissions. If the character aiming for stealth engages in active countermeasures, also requiring a Complex Action, then an Opposed Interfacing Test is called for (with the –30 modifier still applying to the scanning party).

For covert devices that are only transmitting in short bursts, wireless detection is only possible during the short period the burst transmission is being made.

Physical Tracking

Many users willingly allow themselves to be physically tracked via the mesh. To them, this is a useful feature—it allows their friends to find them, their loved ones to know where they are, and for authorities to come to their aid in the event of some emergency. Finding their location is simply a matter of looking them up in the local directory, no test required (assuming you know who they are). Mesh positioning is accurate to within 5 meters. Once located, the position of the target can be monitored as they move as long as they maintain an active wireless connection to the mesh.

Tracking by Mesh ID

An unknown user's physical location can also be tracked via their online mesh activity—or more specifically, by their mesh ID (p. 246). Network security will often trace intruders this way and then dispatch security squads to bring them in. To track an unknown user by their mesh ID alone requires a Research Test. If successful, they have been tracked to their current physical location (if still online) or last point of interaction with the mesh. If the character is in privacy mode (p. 252), a –30 modifier applies.

Tracking by Biometrics

Given the existence of so many spimes and public cameras and sensors, people may also be tracked by their facial profile alone using facial recognition software. This software scans accessible video feeds and attempts to match it to a photo of the target. Given the sheer volume of cameras, however, and the typical range of false-positives and false-negatives, finding the target often boils down to luck. Priority can be given to cameras monitoring major thoroughfares, to narrow the search, but this risks missing the target if they avoid heavy traffic areas. The success of searches of this nature is best left to gamemaster fiat, but a Research Test can also be called for, modified appropriately by the range of the area being watched, whenever there is a chance the target may be spotted.

Other biometric signatures may also be used for tracking this way, though these are usually less available than cameras: thermal signatures (requires infrared cameras), walking gait, scent (requires olfactory sensors), DNA (requires DNA scanners), etc. Each biometric scan requires a separate type of software.

Digital Activity Tracking

Tracking someone's online activities (meshbrowsing, entoptic interactions, use of services, messaging, etc.) is slightly more difficult, depending on what exactly you're after. Gathering information on a user's public mesh activities—social network profiles, public forums posts, public lifelogging, etc.—is handled just like standard online research (p. 249).

Tracking by Mesh ID

A more investigate search can attempt to use the target's mesh ID (p. 246), using it as a sort of digital fingerprint to look up where else they've been online. This primarily involves checking access/transaction logs, which are not always publicly accessible. This sort of search requires a Research Test, handled as a Task Action with a timeframe of 1 hour.

Sniffing

Wireless radio traffic is broadcast through the air (or space), meaning that it can be intercepted by other wireless devices. "Sniffing" involves the capture and analysis of data traffic flowing through the wireless mesh.

To eavesdrop on wireless communications, you need a sniffer program (p. 331) and you must be within radio range (p. 299) of the target (alternately, you can access a device that is within radio range of the target, and sniff from that location). To capture the information you must succeed in an Infosec Test. If successful, you capture data traffic from any targeted devices in range. Note that sniffing does not work on encrypted traffic (including VPNs and anything else using public key cryptography) as the results are gibberish. Quantum encrypted communications cannot be sniffed.

Once you have the data, finding the information you're looking for can be a challenge. Handle this as a standard Research Test (p. 245).

Remote Sniffing via Mesh ID

Finally, a mesh ID may also be actively monitored to see what mesh activity it engages in. This requires special sniffer software (p. 331) and a Research Test. If successful, the monitoring will provide information on that user's public mesh activities (how much is determined by the gamemaster and the MoS), such as which sites they access, who they message, etc. It will not, however, uncover anything that is encrypted (unless the encryption is broken) or anything that takes place on a VPN (unless the VPN is hacked first), though it will show that encrypted communications and/or VPN use are taking place.

Privacy and Anonymization

Given how easily mesh activities are monitored, many users pursue privacy and anonymization options.

Privacy Mode

Characters who go into privacy mode hide their online presence and activities from others to a limited degree. The exact settings are adjustable, but typically involve masking their social profiles and presence to other users in the immediate vicinity, like having an unlisted phone number. Privacy mode can also be used to limit the use of mesh IDs and other data in access and transaction logs, applying a –30 modifier to attempts to research or track them by their online activity.

Stealthed Signals

Another tactic that can be taken for privacy is to stealth the wireless radio signals you emit. This method uses a combination of spread-spectrum signals, frequency hopping, and modulation to make your radio transmissions harder to detect with scanning (p. 251). Stealthing your signals is either a passive activity (Automatic Action, –30 modifier on Interface Tests to locate the signal) or an active one (Complex Action, requires an Opposed Test to locate).

Anonymization

Anonymization takes the issue of privacy a bit further. The user does not just hide their mesh ID, but they actively use false mesh IDs and take other measures to reroute and obfuscate their datatrail. Anonymization is a necessity both for clandestine operatives and those engaging in illicit mesh activities.

False Mesh IDs

The easiest method of making mesh activities anonymous is to set your muse to supply false mesh IDs in online transactions. Though illegal in many jurisdictions, this is an easy task for any character or muse to do. Multiple false IDs are used, making it extremely difficult for anyone to tie all of the user's activities together.

This method makes it extremely difficult for anyone to track the user's online actions. Someone attempting to track the character via these false mesh IDs must beat them in an Opposed Test, pitting their Research skill with a –30 modifier against the character's (or more likely, their muse's) Infosec skill. This is a Task Action with a base timeframe of 1 hour, adjusted higher according to the amount of activity they hope to track. If successful, the tracker manages to dig together enough correlating evidence and records of false IDs to get a picture of the character's activities (how thorough this picture is depends on their MoS). If the fail, the anonymous character has effectively camouflaged themselves in the mesh.

Actively monitoring a character who is fluctuating their mesh ID with a sniffer program, or physically tracking them via the mesh, is next to impossible, as the continual shifting of IDs and intentional decoys make it too difficult to keep up.

Anonymous Account Services

A number of people—not just criminals, hackers, and secret agents—have an interest in keeping some of their affairs anonymous. To meet this demand, various online service vendors offer anonymous accounts for messaging and credit transfers. Some of these vendors

are legit business (in places where it is legal), some are criminals operating illegally, others are hacktivists promoting the privacy meme, and still others are hypercorps or other organizations offering such services internally to their own staff/membership.

The interaction between the vendor and user is encrypted and anonymous, with no logs kept, so even if the vendor's servers are hacked, an intruder will not find any leads. While some anonymous accounts are established for regular use, the truly paranoid use (multiple) one-time accounts for maximum security. One-time accounts are used for a single message (incoming or outgoing) or credit transaction, and then are securely erased.

Tracking an anonymous account is a practical impossibility, and something that only an extremely resourceful organization employing a systematic and expensive effort could attempt.

Disposable Ectos

Another option for those seeking privacy and security is to simply use disposable ectos. Using this method, all activity is routed through a specific ecto (using its mesh ID), the ecto is used for a limited period (until it gets hot), and then it is simply discarded or destroyed.

Mesh Security

Given the lessons of the Fall and the very real risk still posed by hackers, virii, and similar threats, network security is taken extremely seriously in *Eclipse Phase*. Four methods are typically used: authentication, firewalls, active monitoring, and encryption.

Authentication

Most devices, networks (PANs, VPNs, etc.), and services require some kind of authentication (a process by which a system determines whether the claimed identity of a user is genuine) before they grant an account and access privileges (p. 246) to a user. There are several different ways for a system to authenticate a user. Some are more reliable and secure than others, but for the most part, the more secure the method, the higher the operational expenses.

Account: If you have access to an account on one system, this may give you automatic access to related systems or subsystems. This is typical of slaved devices (p. 248), where access to the master automatically grants you access to slaves.

Mesh ID: Some systems accept mesh IDs as authentication. This is extremely common with most public systems, which merely log the mesh ID of any user that wishes access. Other systems will only allow access to specific mesh IDs, but these are vulnerable to spoofing (p. 255).

Passcode: This is a simple string of alphanumeric characters or logographic symbols, submitted in an encrypted format. Anyone with the passcode can access the account.

Biometric Scan: This calls for a scan of one or more of the user's biometric signatures (fingerprint, palm print, retinal scan, DNA sample, etc.). Popular before the Fall, such systems have fallen out of use as they are impractical with synthmorphs or users that frequently resleeve.

Passkey: Passkey systems call for some of encrypted code that is either hardwired into a physical device (that is either implanted or physically jacked into an ecto) or extracted from specialized software. Advanced passkeys combine hardwired encryption with physical nanotech etching to create a unique key. To access such systems, the passkey must either be acquired or somehow spoofed.

Ego Scan: This system authenticates the user's ego ID (p. 279).

Quantum Key: Quantum key systems rely on the unbreakable encryption of quantum cryptography (p. 254).

Firewalls

Firewalls are software programs (sometimes hardwired into a device) that intercept and inspect all traffic to and from a protected network or device. Traffic that meets specified criteria that designates it as safe is passed through, whereas all other traffic is blocked. In *Eclipse Phase,* every network and device can be assumed to have a firewall by default. Firewalls are the main obstacle that an intruder must overcome, as discussed under *Intrusion Tests,* p. 255.

Like other gear, firewalls come in varying quality levels and so may apply modifiers to certain tests.

Active Monitoring

Instead of relying on authentication and firewalls alone, secure systems are actively monitored by a security hacker or a muse. These digital security guards inspect network traffic using a number of software tools and applications that flag conspicuous events. Active surveillance makes intrusions more difficult, since the interloper must beat the monitoring hacker/AI in an Opposed Test (see *Intrusion,* p. 254). Active monitoring also includes monitoring any devices slaved to the monitored system.

Characters may actively monitor their own PANs if they so choose, though this requires a moderate level of attention (count as a Quick Action). It is far more common for a muse to actively guard a user's PAN.

Encryption

Encryption is an exceptionally effective extra layer of security. There are two types of encryption commonly used in *Eclipse Phase:* public key cryptosystems and quantum cryptography.

Public Key Crypto

In public key cryptosystems, two keys are generated by the user, a public key and a secret key. The public key is used to encrypt messages to that user, and is made freely available. When messages are encrypted using that public key, only the secret key—controlled

by the user—can decrypt them. Public key crypto is widely used both for encrypting data traffic between two users/networks/devices and for encrypting files. Due to the strength of the public key system algorithms, such crypto is essentially unbreakable without a quantum computer (see *Quantum Codebreaking,* p. 254).

Quantum Cryptography

Quantum key distribution systems use quantum mechanics to enable secure communications between two parties by generating a quantum key. The major advantage of transmitting information in quantum states is that the system itself instantly detects eavesdropping attempts as quantum systems are disturbed by any sort of external interference. In practical terms, this means that quantum encrypted data transfers are unbreakable and attempts to intercept automatically fail. Note that quantum crypto doesn't work for basic file encryption, its only use is in protecting communication channels.

While quantum key systems have an advantage over public key systems, they are both more expensive and less practical. In order to generate a quantum key, the two communications devices must be entangled together on a quantum level, in the same location, and then separated. So quantum key encrypted communications channels require some setup effort, especially if long distances are involved. Since the implementation of quantum cryptographic protocols is an extraordinary expense, it is usually only adopted for major high-security communications links.

Breaking Encryption

What this means is that encrypted communications lines and files are very safe if using public key systems, and that data transfers are absolutely safe if using quantum crypto. Gamemasters should take note, however: while this may be useful to player characters, it may also hinder them. If the characters need to get at something that is encrypted, they're going to need to figure out some way to get the secret key's passcode. Common methods include the old standbys of bribery, blackmail, threats, and torture. Other options involve espionage or social engineering to somehow acquire the passcode. Hackers could also find some other method to compromise the system and gain inside access, bypassing the encryption entirely.

Quantum Codebreaking

As noted above, quantum computers can also be used to break public key encryption. This requires an Infosec Task Action Test with a +30 modifier and a timeframe of 1 week (once started, the quantum computer finishes the job on its own; the user does not need to provide constant oversight). Gamemasters should feel free to modify this timeframe as fits the needs of their game. Note that quantum computers cannot break quantum-encrypted communications, only encrypted files.

Intrusion

The art of intrusion lies in penetrating a device's security. The best methods involve infiltrating a system quietly, without catching a watchdog's attention, by using exploits—code glitches, flawed security protocols—to create a path circumventing the target's defenses. When called for, however, a hacker can toss aside pretenses and attempt to brute-force their way in.

Preconditions

In order to hack a device, the hacker needs to establish a direct connection to the target computer system. If the hacker is making a direct wireless connection to the target, the target system must be wireless-capable and within range (p. 299), and the hacker must know the target is there (see *Wireless Scanning,* p. 251). If the system is hard-wired, the hacker must physically jack in by using a regular jacking port or somehow tapping into a cable that carries the network's data traffic. If the hacker is accessing the target through the

mesh, the target system must be online and the hacker must know it's mesh ID (p. 246) or otherwise be able to track it down (p. 251).

Circumventing Authentication

Rather than hacking in, an intruder can try to subvert the authentication system used to vet legitimate users. The easiest manner of doing this is to somehow acquire the passcode, passkey, or whatever authentication method the target uses (p. 253). With this in hand, no test is necessary to access the system; the hacker simply logs in just like a legitimate user and has all of the normal access privileges of that user.

Lacking a passcode, the hacker can try to subvert the authentication system in one of two other ways: spoofing or forgery.

Spoofing Authentication

Using this method, the hacker attempts to disguise their signals as coming from the legitimate, authenticated user, rather than from themself. If successful, the system is fooled by this masquerade, accepting the hacker's commands and activity as if they came from a legitimate user. Spoofing is more difficult to pull off, but is very effective when it works.

To spoof a legitimate user, the hacker must be using both sniffer and spoofing software (p. 331). The hacker must then monitor a connection between the legitimate user and the target system, and succeed in an Infosec Test to sniff the traffic between them (p. 252). Apply a –20 modifier if the user has security account privileges, –30 if they have admin rights (p. 247). If the connection is encrypted, this will fail unless the hacker has the encryption key.

Armed with this data, the hacker then uses it to disguise their signals. This requires an Infosec Test, modified by the quality of the system's firewall and the hacker's spoofing program. If successful, communications sent by the hacker are treated as coming from the legitimate user.

Forging Authentication

Biometric and passkey systems used for authentication (p. 253) can potentially be forged hackers who are able to get a look at the originals. The means and techniques for doing so differ, and are beyond the scope of this book, but successfully forging such systems would allow a hacker to log in as the legitimate user.

Intrusion Tests

Hacking into a node is a time-consuming task. The target system must be carefully analyzed and probed for weaknesses, without alerting its defenses. Depending on the type of security in place, more than one test may be called for.

Hackers require special exploit software (p. 331) to take advantage of security holes, but software does not a hacker make. What really counts is Infosec skill (p. 180), which is the ability to use, modify, and improvise exploits to their full advantage.

Defeating the Firewall

Lacking a passcode, the hacker must break in the old-fashioned way: discreetly scanning the target, look for weaknesses, and take advantage of them. In this case the hacker takes their exploit software and makes an Infosec Test. This is handled as a Task Action with a timeframe of 10 minutes. Various modifiers may apply, such as the quality of the exploit software, the quality of the Firewall, or the alertness of the target system. The gamemaster may also modify the timeframe, shortening it to reflect systems that are cookie-cutter common with known security flaws or raising it as fitting for a top-of-the-line system with still-unreleased defenses.

By default, a hacker trying to break in this way is pursuing standard user access rights (p. 247). If the hacker wishes to obtain security or admin privileges on the system, apply a –20 or –30 modifier, respectively.

If the Infosec Test succeeds, the intruder has invaded the system without triggering any alarms. If the system is actively monitored (p. 253), they must now avoid detection by that watchdog (see below). If there is no active monitor, the intruder gains the status of *Covert* (see *Intruder Status,* p. 256). If the intruder scored an Excellent Success, however, their status is *Hidden* (p. 256).

Probing: Players may choose to take the time (p. 116) when probing the target for weakness and exploits. In fact, this is a common procedure when a hacker wants to ensure success.

Bypassing Active Security

If a system is also actively monitored (p. 253), the hacker must avoid detection. Treat this as a Variable Opposed Infosec Test between the intruder and the monitor. The outcome depends on both rolls:

If only the intruder succeeds, the hacker has accessed the node without the monitor or the system

THE HACKING SEQUENCE

1. Defeat the Firewall	Infosec Task Action (10 minutes)
2. Bypass Active Security	Opposed Infosec Test
a. Hacker Wins with Excellent Success, Defender Fails	Hidden status/+30 all tests (p. 256)
b. Hacker Succeeds, Defender Fails	Covert Status (p. 256)
c. Both Succeed	Spot Status/Passive Alert (p. 256)
d. Defender Succeeds, Hacker Fails	Locked status/Active Alert (p. 256) ■

noticing. The hacker has acquired *Covert* status (p. 256). If the hacker scored an Excellent Success, their status is *Hidden* (p. 256).

If only the monitor succeeds, the hacking attempt is spotted and the monitor may immediately lock the hacker out of the system before they manage to fully break in. The intruder may try again, but the monitor will be vigilant for further intrusions.

If both succeed, the intruder has gained access but the monitor is aware that something strange is going on. The hacker acquires *Spotted* status.

If both fail, continue to make the same test on each of the hacker's Action Phases, until one or both succeed.

Intruder Status

Intruder status is a simple way of measuring an invader's situation when they are intruding upon a system. This status has an impact on whether the hacker has caught any attention or if they managed to remain unobtrusive. Status is first determined when the intruder access the system, though it may change according to events.

Note that intruder status is a separate matter from account access privileges (p. 246). The latter represents what a user can legally do on a system. The former indicates how aware the system is of the hacker's true nature as an intruder.

Hidden

An intruder with Hidden status has managed to silently sneak into the system without anyone noticing. The system's security is totally unaware of their presence and may not act against them. In this case, the hacker is not using an account so much as they are exploiting a flaw in the system that grants them a nebulous, behind-the-scenes sort of presence in the system. The hacker effectively has admin access rights, but does not show up as an admin-level user in logs or other statistics. Hidden characters receive a +30 modifier on any efforts to subvert the system.

Covert

An intruder with Covert status has accessed the system in a manner that doesn't attract any unusual attention. For all intents and purposes, they appear to be a legitimate user with whatever access rights they sought. Only extensive checking will turn up any abnormalities. The system is aware of them, but does not consider them a threat.

Spotted

Spotted status indicates that the system is aware of an anomaly or intrusion but hasn't zeroed in on the intruder yet. The hacker appears to be a legitimate user with whatever access rights they sought, but this will not hold up under close scrutiny. The system goes on passive alert (inflicting a –10 modifier to the hacker's activities on that system) and may engage the hacker with passive countermeasures (p. 257).

Locked

Locked status means that the intruder—including their datatrail—has been pinned down by system security. The hacker has access and account privileges, but they have been flagged as an interloper. The system is on active alert (inflicting a –20 modifier on the hacker's actions) and may launch active countermeasures (p. 257) against the intruder.

Changing Status

An intruder's status is subject to change according to their actions and the actions of the system.

Upgrading Status

A hacker can attempt to improve their status in order to better protect themself. This requires a Complex Action and an Infosec Test. If the hacker has Spotted status, this is an Opposed Test between monitor and intruder. If the hacker wins and scores an Excellent Success (MoS of 30+), they have upgraded their status by one level (for example, from Covert to Hidden). Intruders with Locked status may not upgrade.

Zeroing In

A security hacker or muse that is actively monitoring a system can take a Complex Action and attempt to hone in on a Spotted intruder. An Opposed Infosec Test is made between both parties. If the system's defender wins, the hacker is downgraded to Locked status.

Failing Tests

Any time an intruder scores a Severe Failure (MoF 30+) on a test involving manipulating the system, they are automatically downgraded one status level (from Covert to Spotted, for example). If a critical failure is rolled, they immediately give themselves away and achieve Locked status.

Brute-Force Hacking

Sometimes a character simply doesn't have time to do the job right, and they need to hack in now or never. In this case the hacker engages the target system immediately, head on, without taking any time to prepare an attack. The hacker simply brings all of their software exploit tools to bear, throwing them at the target and hoping that one works. This is handled as an Infosec Test, but as a Task Action with a timeframe of 1 minute (20 Action Turns). The hacker receives a +30 modifier on this test. Many hackers choose to rush the job (see *Task Actions,* p. 120), in order to cut this time even shorter.

The drawback to brute-force hacking is that it immediately triggers an alarm. If the system is actively monitored, the hacker must beat the monitor in an Opposed Infosec Test or be immediately locked out as soon as they break in. Even if they succeed, the hacker has *Locked* status and is subject to active countermeasures.

INTRUSION COUNTERMEASURES

If an intruding hacker fails to penetrate a system's defenses (i.e., they are Spotted or Locked, see p. 256), then the system goes on alert and activates certain defenses. The nature of the applied countermeasures depends on the capabilities of the system, the abilities of its security defender(s), and the policy of its owner/admins. While some nodes will simply seek to kick the intruder out and keep them shut out, others will actively counterattack, seeking to track the intruder and potentially hack the intruder's own PAN.

SECURITY ALERTS

Security alerts come in two flavors: passive and active.

PASSIVE ALERT

Passive alerts are triggered when an intruder hits Spotted status. The system immediately flags a visual or acoustic cue to anyone actively monitoring the system and possibly the owner or admins. It immediately launches one or more passive countermeasures (see below). Depending on the system, extra security hackers or AIs may be brought in to help investigate. If the intruder is not encountered again or located within a set time period (usually about 10 minutes), the alarm is deactivated and the event is logged as an anomaly. Depending on the security level of the system, someone may analyze the logs at some point and try to ascertain what happened—and prevent it from happening again.

All intruders suffer a –10 modifier for tests involving a system that is on passive alert.

ACTIVE ALERT

An active alert is triggered when an intruder hits Locked status. The system immediately alerts the owners, admins, and monitoring security agents. Additional security assets (hackers and AIs) may be called in. The system also launches active countermeasure against the intruder (see below). Active alerts are maintained for as long as the intruder is present, and sometimes for a lengthy period afterwards just in case the hacker returns.

PASSIVE COUNTERMEASURES

Passive countermeasures are launched as a precaution whenever an intruder acquires Spotted status.

LOCATE INTRUDER

A security hacker or AI monitoring a system may attempt to track down the source of the passive alert. See *Zeroing In,* p. 256.

RE-AUTHENTICATE

When a passive alert is triggered, a firewall can be set to re-authenticate all active users, starting with the most recent. At the beginning of the next Action Turn, everyone on the system must take an action to log back in. For intruders, this means making an Infosec Test, modified by –10 for the passive alert, to satisfy the system that they are a legitimate user.

REDUCE PRIVILEGES

As a protective measure, some systems will immediately reduce access privileges available to standard users, and sometimes security users as well. One common tactic is to protect all logs, backing them up and making sure no one has rights to delete them.

ACTIVE COUNTERMEASURES

Active countermeasures can only be launched if the intruder has acquired Locked status.

COUNTERINTRUSION

A security hacker or guardian AI can proactively defend a system by attacking the intruder's source. For this to occur, the intruder must first be successfully traced (p. 251). Once this occurs, the security forces can then launch their own intrusion on the hacker's home ecto/mesh inserts and/or PAN.

LOCKOUT

A system that has locked onto an intruder may also attempt to lock them out. Lockout is an attempt to remove the compromised account, sever the connection between the two, and dump the hacker from the system.

Lockout must be initiated by someone with security or admin privileges. An Opposed Infosec Test is made, with the intruder suffering a –20 modifier for being Locked. If the character defending the system succeeds, the intruder is immediately ejected from the system and the account they used will be placed on quarantine or deleted. That account will not be usable again until a security audit approves it and replaces the authentication. Any attempt to access the system from the same mesh ID as the intruder automatically fails.

REBOOT/SHUTDOWN

Perhaps the most drastic option for dealing with an interloper is to simply shut down the system. In this case, the system closes all wireless connections (if it has any), logs off any users, terminates all processes, and shut itself down—thereby locking out the intruder. The disadvantage, of course, is that the system must interrupt its activities. For example, shutting down your mesh inserts or ecto means losing all communication with teammates, access to augmented reality, and control over slaved/linked devices.

Initiating a reboot/shutdown is only a Complex Action, but the actual process of shutdown takes anywhere from 1 Action Turn (personal devices) to 1 minute (large hardwired networks with multiple users), determined by the gamemaster. Rebooting a system takes the same amount of time to get started again.

TRACE

For high-security systems, a popular countermeasure is to track the infiltrator's physical location via their mesh ID (see *Physical Tracking*, p. 251). In most cases, habitat physical security is subsequently alerted and forwarded the position to take care of the criminal.

WIRELESS TERMINATION

An alternative to shutdown or rebooting is simply to sever all wireless connections by shutting down the wireless capabilities of the system. The system will lose all active connections, but any intruders will be dumped. Wireless termination is a Complex Action to initiate and completes at the end of that Action Turn. Re-starting wireless connectivity takes 1 Action Turn.

JOINT HACKING/ SECURING

Hacking will sometimes involve teams of attackers and/or teams of defenders. A hacker might be backed up by their muse or another team member with moderate Infosec skills. Hard networks are often defended and monitored by teams of highly-skilled security hackers and AIs. When intruding in or defending a computer system, operators must decide whether to act individually or in concert.

Each approach has its tradeoffs. A team that chooses to breach or maintain a system's security as a team effort must allocate one character (usually the team member with the highest Infosec skill) as the primary actor (see *Teamwork*, p. 117). Each additional character and muse adds a +10 modifier for each test (up to the maximum +60 modifier) but cannot spend time on other actions than those performed by the team leader. When acting in concert, teams may switch team leaders at any time, in case group members are specialized for certain tasks.

Alternately, both intruding and defending teams may choose to act individually but for a joint goal. Each hacker must make intrusions on their own, with individual repercussions for detection and counterintrusion, which runs the risk of affecting all intruders if any one is Spotted or Locked. On the other hand, a team of intruders can pursue multiple actions simultaneously in a coordinated manner and may temporarily overwhelm available security. The same holds true for system defenders, who may accomplish more by splitting their actions, leaving some to monitor while others launch counterintrusion attacks and other countermeasures. ■

SUBVERSION

Once an intruder has successfully invaded a device or network, they can pursue whatever tasks they are interested in, as fitting that particular system. Depending on the type of account the intruder hacked, they may or may not have access privileges to do what they want to do. If their access rights allow it, the activity is handled like that of a legitimate user and no test is called for (unless the activity itself calls for some kind of test, such as Research). For example, a hacker who infiltrates a habitat's security system with a security account can monitor cameras, deactivate sensors, review recorded surveillance footage, and so on, as any legitimate user with security right would be allowed to do.

Engaging in any sort of activity for which you don't have access rights is more difficult and requires hacking the system. This typically requires an Infosec Success Test, modified by the difficulty of the action as noted on the Subversion Difficulties table. In most cases this in not an Opposed Test even if the system is actively monitored, unless specifically stated otherwise. Failing such tests, however, will result in a change of the hacker's intruder status (see *Failing Tests*, p. 256).

Examples for different types of system subversion are given in the *Subversion Examples* sidebar. This is not an exhaustive list, however, and gamemasters and players are encouraged to improvise game effects in case an action has not been explicitly described.

AUGMENTED REALITY ILLUSIONS

A hacker who has infiltrated an ecto, mesh inserts, or some other device with an AR interface may inject different kinds of visual, auditory, tactile, and even emotional illusions into the augmented reality of the device's user, depending on the type of interface used. How the hacked user will respond to the illusion depends on a number of factors, such as whether they are aware of the intruder (i.e., the hacker has Spotted or Locked status), what type of interface they are using (entoptic or haptic), and how realistic the illusion is.

The best illusions are, of course, crafted in advance, using the best image and sensory manipulation tools available. Such illusions are hyper-realistic. Anyone making a Perception Test to identify them as fake

SUBVERSION EXAMPLES

In addition to the tasks noted under the Subversion Difficulties table, these modifiers present some additional example actions.

MODIFIER	TASK
Hacking Bots/Vehicles	
–0	Give orders to drones
–10	Alter sensor system parameters, disable sensors or weapon systems
–20	Alter smartlink input, send false data to AI or teleoperator
–30	Lockout AI or teleoperator, seize control via puppet sock
Hacking Ectos/Mesh Inserts	
–0	Interact with entoptics, befriend everyone in range, make online purchases using user's credit, intercept communications, log activity
–10	Alter social network profile/status, adjust AR filters, tweak sensory interface, change AR skin, change avatar, access VPN
–20	Block or shuffle senses, inject AR illusions, spoof commands to drones/slaved devices
–30	Boot user out of AR
Hacking Habitat Systems	
–0	Open/close doors, stop/start elevators, operate intercom
–10	Adjust temperature/lighting, disable safety warnings, replace entoptic skin, lock doors, switch traffic timers
–20	Disable subsystems (plumbing, recycling, etc.), disable wireless links, dispatch repair crews
–30	Override safety cutoffs
Hacking Security Systems	
–0	Move/manipulate cameras/sensors, locate security systems/guards/bots
–10	Adjust patterns of sensor sweeps, view security logs, disable weapon systems
–20	Delete security logs, dispatch security teams
–30	Disable alerts
Hacking Simulspace Systems	
–0	View current status of simulspace, simulmorphs, and accessing egos
–10	Change domain rules, add cheats, alter parameters of story, alter simulmorphs, change time dilation
–20	Eject simulmorph, alter/erase character AIs
–30	Abort simulation
Hacking Spimes	
–0	Get status report, use device functions
–10	Adjust AI/voice personality settings, adjust timed operation schedule
–20	Disable sensors, disable device functions

SUBVERSION DIFFICULTIES

Difficulty modifiers for common computer tasks

MODIFIER	TASK
–0	Execute commands, view restricted information, run restricted software, open/close connections to other systems, read/write/copy/delete files, access sensor feeds, access slaved devices
–10	Change system settings, alter logs/restricted files
–20	Interfere with system operations, alter sensor/AR input
–30	Shut system down, lockout user/muse, launch countermeasures at others

suffers a –10 to –30 modifier (gamemaster's discretion). An eclectic collection of software programs offer a diverse range of AR illusions.

Hackers may also improvise illusions on the fly, usually by patching in sensor data from others sources, though this is more difficult and more easily spotted (typically adding a +10 to +30 modifier to Perception Tests). The advantage is that the hacker can modify the illusion in reaction to the user's actions or environmental factors on the fly. AR illusion software, however, also offers some template illusions that can be modified and controlled in real-time via a connected interface.

Whenever a user is bombarded with AR illusions, the gamemaster should make a secret Perception Test to see if they spot the deception. Even if they do, however, the character may still react to them. Almost anyone will duck when they see an object suddenly flying at their face, as their body reacts on its own before the brain comprehends that it's an illusion and not a threat.

Aside from their deceptive value, illusions can be used to distract users or otherwise impair their perceptive faculties. For example, dark illusory clouds can obscure vision, ear-wrenching high-volume noises can make people cringe, and a persistent tickling sensation might drive anyone crazy. Such effects can apply a –10 to –30 modifier to Perception Tests and other actions, but the user can also adjust their filters and/or turn their AR off if necessary.

Backdoors

A backdoor is a method of bypassing a system's normal authentication and security features. It enables a hacker to sneak into a system by exploiting a flaw (which can take the form of an installed program or modification to an existing program or hardware device) that was integrated into the system previously, either by themself or another hacker (who shared the backdoor).

To install a backdoor, the hacker must successfully infiltrate the system and succeed in both a Programming and an Infosec Test (or an Opposed Infosec Test if the system is actively monitored). The Programming Test determines how well the backdoor is crafted and hidden within system processes, while the Infosec Test represents incorporating it into the system without security noticing. Modify the Programming Test by –20 if the hacker wants to have security privileges when using the backdoor, –30 for admin.

Once installed, using a backdoor requires no test to access the system—the hacker simply logs on as if they were a legitimate user, gaining Covert status. Anyone who is aware of a backdoor's details may use it.

How long the backdoor lasts depends on many factors and is largely up to the gamemaster. Backdoors are only likely to be spotted during complete security audits, so more paranoid systems are likely to detect them earlier. Security audits may also occur when an intruder is Spotted but never Locked. Security audits are a Task Action with a timeframe of 24 hours. The character conducting the audit makes an Infosec Test to spot the back door. If the backdoor's installer scored an Excellent Success on their Programming Test, this Infosec Test suffers a –30 modifier.

Crashing Software

Intruders can attempt to crash software programs by killing the processes that run them. This requires a Complex Action and an Infosec Test. Note that some software is set to immediately respawn, but this can take from 1 Action turn to 1 minute, depending on the system.

Hackers may crash AIs, AGIs, and even infomorphs this way, but the process is more difficult. In this case, an Opposed Infosec Test is made against the target, who is immediately aware they are under attack. Two consecutive tests must succeed in order to crash an AI, three in order crash an AGI or infomorph. If successful, the AI/infomorph immediately reboots, which generally takes 3 Action Turns, longer if the gamemaster chooses.

Eliminating Intrusion Traces

Hackers who have avoided being Locked may attempt to clean up all traces of their intrusion before they exit a system. This involves erasing incriminating data in the access and security logs, and otherwise hiding any evidence of system tampering. This requires a Complex Action and an Infosec Test, or an Opposed Infosec Test if the system is actively monitored. If successful, the intruder has wiped anything that might be used to track them down later, such as mesh ID, etc.

Hacking VPNs

Virtual private networks (VPNs) are more challenging to hack than standard devices. Because they exist as an encrypted network within the mesh, accessing channels of communication within a VPN is all but impossible with the encryption key. This means any attempt to sniff the VPN traffic is also impossible with the key.

The only way to hack a VPN is to hack into a device that is part of the VPN and running the VPN software. Once an intruder has access to such a device, they can attempt to access the VPN. The account the hacker has compromised may have VPN privileges, in which case they are in. If not, they must hack access, requiring an Infosec Test with a Minor modifier (–10).

Once access to the VPN is acquired, the hacker may treat the VPN like any other network. They may hack other devices on the VPN, sniff VPN traffic, track other users on the VPN, research data hidden away on the VPN, and so on.

Scripting

A script is a simple program—a batch of instructions—that a hacker can embed in a system to be executed at a later pre-scheduled time or upon a certain trigger event, even without the hacker being present. When activated, the script will undertake a number of system operations limited by the abilities of the operating system and the access rights the hacker had when they implemented the script in the system. Scripts are

a great way for a hacker to subvert a system without necessarily being in danger when they do it.

Scripts can be programmed on the fly or preprogrammed. When composing the script, the character must detail what system operations the set will call for, in what order and at what times (or at what trigger steps). The script cannot contain more steps/tasks than the character's Programming skill ÷ 10 (round down). To program a script, the character must succeed in a Programming Test with a timeframe determined by the gamemaster.

To load the script, the character must have successfully intruded in the system and must succeed in an Infosec Test (or an Opposed Infosec Test if the system is actively monitored). If successful, the script is loaded into the system and will run as programmed.

Once the script is activated, it carries out the preprogrammed sequence of actions. The programmer's Infosec skill is used for any tests those actions call for.

Inactivated scripts may be detected in a security audit, just like backdoors (p. 260).

EXAMPLE

Sarlo has infiltrated a security system and wants to arrange it so that a particular security sensor deactivates and a door unlocks at a set time, allowing his team to infiltrate a high-security area. He creates a script that will activate at 2200 hours with the following steps:

1) At 2200 hours, disable security sensor
2) Then unlock door
3) At 2230 relock door
4) Then re-enable security sensor
5) Eliminate traces

This script has 5 steps, which Sarlo can handle with his Programming skill of 70. Sarlo succeeds in his Programming and Infosec Tests, and the script is loaded. It will then activate at the appropriate time. Since Sarlo's account did not have access rights to perform these actions, each will require an Infosec Test using Sarlo's skill to succeed.

CYBERBRAIN HACKING

Pods and synthmorphs (including some bots and vehicles) are equipped with cybernetic brains. While this technology allows a transhuman ego to sleeve into and control these forms, they carry the disadvantage of being vulnerable to hacking, like any other electronic device.

Cyberbrains are not wireless-enabled for security reasons, but they do have access jacks (p. 306) and are directly linked to mesh inserts. This means that in order to hack a cyberbrain, the hacker either must have direct physical access to the morph's body in order to jack in, or they must first hack into the mesh inserts and then break into the cyberbrain from there.

Due to their importance, cyberbrains are equipped with numerous hard-coded security features that make intrusion very difficult. Apply a –30 modifier to all attempts to hack into and subvert a cyberbrain. (Note that the –30 modifier for hacking an admin account does not apply to cyberbrains.)

Cyberbrains are treated just like other systems for intrusion and subversion purposes, but since they house the morph's controlling ego they present several unique hacking opportunities.

ENTRAPMENT

An intruding character can attempt to *lock in* an ego, preventing it from evacuating the cyberbrain. The hacker (with the –30 modifier noted above) must beat the defending character or muse in an Opposed Infosec Test. If successful, the ego is prevented from transferring itself to another system.

To fully pen the ego in, the ego character and its protecting muse must also be locked out (p. 257) from controlling the cyberbrain's system, otherwise the ego could potentially be freed.

Trapped egos are quite vulnerable. They could, for example, be subject to enforced uploading, enforced forking, or psychosurgery.

MEMORY HACKING

All cyberbrains incorporate mnemonic augmentation (p. 307), or digitally recorded memories. A hacker who has accessed the cyberbrain can read, alter, or delete these memories with a successful Research or Interfacing Test (the –30 modifier applies).

PUPPETEERING

Cyberbrains also incorporate a puppet sock (p. 307), enabling remote users to take over the pod or synthmorph body and control it via teleoperation or jamming (p. 196). This allows a hacker to seize control of the body and manipulate it remotely. To do so, the hacker must take a Complex Action and beat the defending character or muse in an Opposed Infosec Test; the hacker suffers the –30 modifier noted above.

A defender who is not locked out may continue to fight for control of the morph, using a Complex Action. In this case, another Opposed Infosec Test is called for. This can result in a situation where the morph repeatedly slips control from the hacker to the defender, or perhaps slips into a catatonic state as the two sides battle it out.

SCORCHING

Having direct access to a cyberbrain opens the possibility for certain kinds of attacks that are normally infeasible due to the strict content filtering that occurs on the link between the cyberbrain and mesh inserts. One of these possibilities is *scorching*—the use of damaging neurofeedback algorithms to harm the victim's mind.

In order to make a scorching attack, the cyberbrain intruder must deploy a scorch program. To utilize a scorch program, the intruder must beat the defending Ego in an Opposed Infosec Test. The –30 modifier for cyberbrain hacking applies to the attacker.

Several types of scorch programs exist, with different effects: cauterizers (damage), bedlams (stress),

spasms (pain), nightmares (fear), and shutters (sensory deprivation). These are described on p. 332 of *Gear*.

Shutdown

If a cyberbrain is shut down (p. 257), the morph immediately ceases activity, perhaps collapsing or rolling to a stop. Pods will appear to be in a coma. The ego, however, will be rebooted along with the cyberbrain.

Terminate Cortical Stack Feed

The cyberbrain feeds backup data to the cortical stack. This is a one-way connection, so the cortical stack may not be hacked, but the transfer of data may be cut off. This termination action requires an Opposed Infosec Test between the hacker (with the –30 modifier) and the defender. The ego's backup will not be updated for as long as the connection remains off.

Radio Jamming

Radio jamming is a method of transmitting radio signals that deliberate interfere with other radio signals in order to disrupt communications. In the highly-networked world of *Eclipse Phase*, intentional jamming is often illegal, not to mention rude.

Radio jamming does not require any special equipment other than a standard wireless device, such as an ecto or mesh inserts. Jamming can be *selective* or *universal*. Selective jamming targets a particular device or set of devices. In order to selectively jam, the character must have scanned the target device(s) (p. 251). Universal devices target all radio-equipped devices indiscriminately.

Jamming simply requires a Complex Action and an Interfacing Test. If successful, affected devices within range have their radio communications disrupted—they are cut off from the mesh and may not communicate wirelessly. Wired devices are unaffected.

Devices equipped by AIs will automatically attempt to overcome jamming, which requires a Complex Action (transhuman users may also do the same). In this case, a Variable Opposed Test is made between the jammer and defender. If the jammer wins, all communications are blocked; if the defender wins, they are unaffected. If both parties succeed, the defender's communications are impacted but not completely cut off. The gamemaster decides how much information the defender can get through, and how this situation affects mesh use.

Jamming Radar

Jamming can also be used to interfere with radar. In this case, if the jammer makes an Interface Test. If successful, the radar suffers interference, imposing a –30 modifier on all sensor-related tests. The entity operating the radar may attempt to overcome this interference by beating the jammer in an Opposed Interface Test.

Simulspaces

Simulspaces are virtual reality environments where the resolution advances beyond realistic high definition and into the hyper-real. The environments they create are comprehensive and authentic illusions, from aspects like lighting, day or lunar cycles, and weather down to minute details and sensations. Jacking into a simulspace is much like crossing over into a alternate world or reality, which is why simulspaces have become increasingly popular in entertainment.

While simulspaces usually cannot harm characters immersed in them as the sensory algorithms are not intended to be offensive programs or routines, experiences in simulspaces can have a strong psychological impact on an ego, as the simulation is as close to reality as you can get. A character who is "physically" tortured within a simulspace will not be physically harmed, but the mental stress of the experience might still be sufficient to cause permanent traumas.

Simulmorphs

Characters access simulspace using an avatar-like persona called a simulmorph. This simulmorph is created by the simulspace, based on the domain rules of the simulation and certain characteristics of the morph or ego accessing the simulation. Depending on the simulation, this simulmorph may be customizable to varying degrees.

While interacting with the simulation, treat simulmorphs as basic infomorphs for all rules purposes, even if the egos are still possessing another morph body in reality.

When accessing a simulspace, muses are usually not transferred into the simulation, though they can potentially come along if domain rules permit it. In this case, muses are treated as separate characters within the simulspace with their own simulmorph body.

Depending on the role a simulspace is intended to play in the story, the gamemaster may want to invent "physical stats" for the simulmorph bodies, especially if the characters are likely to spend a lot of time in the simulation. These statistics can literally be made up—it is a virtual reality after all, and anything goes. Alternately, the gamemaster can simply wing it and invent any necessary statistics on the fly as the need for them comes up.

Immersion

When a character immerses themselves in a simulspace, they "become" the simulmorph. The character's physical body, typically secluded and protected in a vat or couch, slumps inertly. While immersed, they suffer –60 on all Perception Tests or attempts to take action with their physical morph. Characters can enter and leave the simulspace as will, but toggling in or out takes a Complex Action.

If the simulspace crashes or the character is otherwise dumped from it, they immediately resume control of their own morph as normal. VR dumpshock is extremely jarring, and the character suffers 1d10 ÷ 2 mental stress.

External Mesh Interaction

A character accessing a simulspace may still interact with the mesh (and through it, the outside world) assuming the domain rules allow for it. Any outside interactions are subject to time dilation issues, however. For example, in a simulspace running faster than real time, holding a chat with someone in outside meatspace is excruciatingly slow, as real-world seconds translate into minutes in VR. If a character wishes to directly access other mesh nodes, they must toggle or log out of the simulspace.

Simulspace Rules

Since a simulspace is an alternate world whose realism matches reality, characters use their physical skills and aptitudes as if they were acting in the real world with few exceptions:

- Though intrusion and hacking can be represented as another layer of the simulation, there is no actual hacking within the simulspace (see *Hacking Simulspaces*).
- Asyncs cannot use their psi abilities in simulspace, though such abilities can be simulated.
- Any "physical" damage taken in the simulspace is treated as "virtual" damage. While virtual injuries and wounds use the same mechanics, characters that die in a simulspace are usually simply ejected from the simulation. In some cases "dead" characters are brought into a white room and can re-enter or just watch the simulation, depending on the domain rules.
- Mental stress or trauma inflicted during a simulation carries over to the ego as real Lucidity damage. At the gamemaster's discretion, some mental stress may be reduced if the character is aware that they are in a simulation.

Domain Rules

Anything goes in a simulspace, as dictated by the domain rules. A simulspace may range from approximating reality very closely to differing drastically. Gravity might fluctuate, the visual light spectrum might not exist, characters might heal virtual damage effortlessly, simulmorphs may be capable of transmogrifying into other creatures, everything might be underwater—the possibilities are endless, limited only by imagination. In game terms, this allows the gamemaster to make up rules on the fly.

Cheating

As with any good game, simulspaces provide ways to cheat. Cheats are either built into the simulspace software or (externally) programmed in by a hacker. Cheats allow for a character to break the domain rules in some way. This may be a special power, a way to alter some environmental factor (like flying), altering the time dilation, some sort of power-up ability, a way to get info on other simulmorphs, or a short-cut through part of the simulation. In game terms, cheats might provide bonus modifiers to certain skill or stat tests made by a simulmorph. Cheating is usually forbidden. Players who cheat in a simulspace game and who get caught may face eviction from the simulspace.

Hacking Simulspaces

Since simulspaces are complex virtual environments and often run on time dilation, hackers cannot hack them in a normal manner when they participate in the simulation. There are ways to affect and influence the simulation from within, but the degree of subversion that is achievable is limited. For this reason, hackers rarely enter into VR to hack. Hacking into the external system running a simulspace is just like breaking into any other system. Use all of the standard rules for intrusion and subversion.

Meddling from the Inside

Within a simulspace, a hacker's only choice for interacting with the VR controls is through the standard interface that any simulmorph can pull up. Typically used for standard user features like adjusting your simulmorph or chatting with or checking the status

HACKING SIMULSPACE FROM WITHIN

MODIFIER	TASK
–0	Analyze simulation parameters, view domain rules, shape appearance of simulmorph, switch simulmorph character or morph type
–10	Change probability of test outcomes, become invisible ("out-game") to others
–20	Interfere with simulation (e.g. make it rain, generate earthquakes), generate items, ignore domain rules, kill or lockout other simulmorphs
–30	Go into god mode, command simulated characters, take over the simulation

of other users, a clever hacker might find some ways to subvert the system. Such options are usually limited, however, as a number of system controls and processes cannot be accessed and manipulated from the inside.

Most of the hacker's options are going to involve meddling with the simulation and its specific domain rules or possibly gaining access to cheats. To make a change requires a successful Interface Test. Ultimately the gamemaster decides what the hacker can and cannot get away with, based on the limitations of that particular simulspace.

Most simulspaces are monitored to prevent cheating and abuse, though the monitors are typically preoccupied with maintaining the simulspace as a whole, dealing with other users, etc. At the gamemaster's discretion, such a monitor might get to make an Interface Test (possibly with a modifier for distraction) to notice the hacker's efforts.

AIs AND MUSES

AIs are sentient but specialized programs. Like other software, they must be run on a computerized system. Most AIs are run on bots, vehicles, and other computerized devices where they can assist transhuman users or operate the machine themselves. They are also commonly used to actively monitor computer systems against intrusion attempts. *Muses* are AIs that specialize as personal companions, always at a character's virtual side every since they were a child.

Sample AIs and muses can be found on p. 331 of *Gear.*

AI LIMITATIONS

AIs feature a number of built-in restrictions and limitations. To start with, they can be loaded in the cyberbrains of pods and synthmorphs, but they may not be downloaded into biomorph brains. As software, they use the same rules as other software and may be shut down, restarted, copied, erased, stored as inert data, infected with virii, and reprogrammed. Due to their size and complexity, only one AI (or infomorph) may be run on a personal computer at a time (see *Computer Capabilities,* p. 247), and they may not run on peripheral devices.

While they possess cognition and intelligence, they are incapable of self-improvement and cannot expand their programming and skills on their own. Although they are not able to learn they do possess memory storage that grants them the ability to remember and a limited form of adaptation. AIs do not earn Rez Points, nor do they have Moxie.

AIs have aptitudes no greater than 20 but are incapable of defaulting. If they don't possess a skill, they don't know how to do it. (At the gamemaster's discretion, they may default to field skills or similar skills as noted on p. 173 with a –10 to –30 modifier). They can use skills like any character in *Eclipse Phase*, however they may not possess any Active skill at a rating higher than 40 or Knowledge skill higher than 90—the maximum amount of expertise that their skill software allows.

While AIs are programmed with personality templates and empathy, they are generally less emotive and difficult to read (apply a –30 modifier to Kinesics Test made against them, when in pod bodies). When combined with non-expressive synthetic morphs, they are even more difficult (–60 modifier). Some AIs lack emotive capabilities altogether and are impossible to read with Kinesics skill.

AIs do have a Lucidity and Trauma Threshold stat, and are capable of suffering mental stress and traumas.

COMMANDING AIs

AIs and muses are programmed to accept commands from authorized users. In some circumstances, they may also be programmed to follow the law or some ethical code. Programming is never perfect, however, and AIs can be quite clever in how they interpret commands and act on them. In most cases, an AI will rarely refuse to follow a request or obey a command. Given that they also usually have a duty to protect the person commanding them, the AI may be reluctant to follow commands that could be construed as dangerous or having a negative impact on the user. Under certain circumstances, preprogrammed imperatives can force an AI to ignore or disobey their owner's commands (gamemaster's discretion).

AGIs AND INFOMORPHS

The term "infomorph" is used to refer to any ego in digital body, whether that be an AGI or the digital emulation of a biological mind (including backups and forks). The following rules apply to infomorph and AGI characters.

ROLEPLAYING MUSES

Muses should not be viewed as a mere tool for getting extra skills, but as an opportunity to enhance roleplaying. Though typical muse AIs are not complete intelligences (though they can be, see *Infomorphs as Muses*), their personality matrix is often quite sophisticated and they are very good at adapting to their user's personality quirks. On the other hand, they share the same Real World Naiveté (p. 151) as AGI characters when it comes to understanding all the facets of transhuman behavior, social interaction, body language, or emotion. Their personalities are more non-human, abstract, alien, and less passionate than transhuman life forms, often leading to conceptual misunderstandings and miscommunications. Likewise, their creative capacities are limited, instead bolstered by an ability to calculate odds, run simulations and evaluate outcomes, and make predictions based on previous experiences.

Depending on the user's stance towards sentient programs, muses can be viewed as intelligent toys, followers, servants, slaves, friends, or pets, which should somehow be reflected in game play. Most transhumans have also acquired a tendency to bond with a muse mentally due to its omnipresence and devotion to the user (like bonding to a child or puppy that then grows to be an adult). Therefore the subversion or even destruction of a muse personality is sometimes even equated with rape or murder. ■

INFOMORPHS AS MUSES

Instead of relying on underdeveloped muses for aid and companionship, characters may prefer to have a full-fledged digital intelligence at their side, whether that be an AGI, a backed-up biological ego, or fork of the character's own personality. Alternately, a character with a ghostrider module (p. 307) could have both, carrying a muse in their mesh inserts and an infomorph in the ghostrider module.

This possibility is very useful for infomorph player characters, as they can ride along in someone's head and participate in team affairs without needing a morph of their own. ■

SOFTWARE MINDS

At their core, infomorphs are just programs and so they are treated like other software in terms of rules. They must be run on a specific personal computer or server (see *Computer Capabilities*, p. 247). If that device is shut down, the infomorph also shuts down into a state of unconsciousness, restarting along with the device (infomorphs may also shut themselves down, though it is rare that they do so). If the device is destroyed, the infomorph is killed along with it (unless their data can somehow be extracted from any surviving components, perhaps resulting in a *vapor*, p. 274). Infomorphs may copy themselves, though in some places this is illegal and in most places is frowned upon as it raises numerous ethical and legal questions. For this reason many infomorphs that copy and transfer themself to run on a new device will thoroughly erase themselves off the old one.

As digital beings, infomorphs have no physical mind, but it is a simple matter for them to possess an uninhabited synthmorph, taking up residence in the cyberbrain (see *Resleeving Synthmorphs*, p. 271). They may also download into biomorph bodies according to standard resleeving rules (p. 271). Even when disembodied, they may interact with the physical world via the mesh, viewing through sensors, streaming XP feeds, communicating with characters, commanding slaved devices, and teleoperating/jamming drones.

Infomorphs have a Speed of 3, reflecting their digital nature and their ability to act at electronic speeds. If an infomorph sleeves into a body, however, it takes on the Speed of that morph.

AGI CHARACTERS

Though AGIs were not born in a biological body, their programming encompasses the full spectrum of human personality, outlook, emotions, and mental states. AGIs are in fact raised in a manner similar to human children, so that they are socialized much like humans are. Nevertheless, on a fundamental level they are non-humans programmed to act human. There are inevitably points where the programming does not mask or alter the fact that AGIs often possess or develop personality traits and idiosyncrasies that are quite different from human norms and often outright alien.

Unlike standard crippled AIs, AGIs are capable of full-fledged creativity, learning, and self-improvement (at a slow but steady pace equivalent to humans). Just like other characters, they earn Rez points and may improve their skills and capabilities. AGIs suffer none of the skill limitations placed on weak AIs, using skills just like any other character.

On an emotional level, AGIs run emotional subroutines that are comparable to biological human emotions. AGIs are, in fact, programmed to have empathy and share an interest in human affairs and prosperity, and to place significant relevance on life of all kinds. In game terms, AGIs emote like humans (and so Kinesics may be used against them) and are vulnerable to emotionally manipulative effects, fear, etc.

BACKUPS AND UPLOADING

Transhuman minds (egos) can be digitally emulated and backed up into computer storage—a process known as *uploading*. This allows them to be restored if they are killed. ■ **p. 268**

RESLEEVING

Uploaded egos may also be downloaded into a new body, a process known as *resleeving*. ■ **p. 271**

Integration, Alienation, and Continuity: Resleeving is not easy. Adapting to a new morph, the loss of continuity, and/or the remembrance of death can inflict mental stress. ■ **p. 272**

10 ACCELERATED FUTURE

EGOCASTING

Rather than physically travel, most transhumans upload their ego, farcast it to a distant location, then resleeve (or run as an informorph) at the destination. ■ **p. 276**

FORKING AND MERGING

Forking is the process of making digital copies of your ego, often for multitasking purposes. Forks may be re-integrated back into your ego later. ■ **p. 273**

REPUTATION AND SOCIAL NETWORKS

In the outer system, the reputation economy rules, and in the inner system, rep is a measure of your social standing with your peers. ■ **p. 285**

NANOFABRICATION

Material goods can be manufactured from the molecular level up via nano-fabricaton, requiring only raw materials, blueprints, and time. ■ **p. 284**

LIVING IN THE FUTURE

Technology has changed many other features of fundamental life:

Identity: Your body no longer defines who you are. ■ **p. 279**

Life In Space: Habitats, immigration, and space travel. ■ **p. 280**

Security: New challenges arise to keeping people out—or breaking in. ■ **p. 291**

The future setting of *Eclipse Phase* introduces a number of technological elements that have a strong impact on transhuman society. These include backups and uploading, resleeving, egocasting, forking, nanofabrication, reputation systems, space habitats, and space travel, among others.

BACKUPS AND UPLOADING

The transhuman mind is no longer a prisoner of the biological hardware on which it originates. Through various mechanisms, biological brains may be digitally emulated, allowing people to make a *backup* of their minds, including their entire personality, memories, and skills—a process known as *uploading*.

The primary use of backups is to ensure the person's ego can be retrieved in case of death, in which case they may be *resleeved* (p. 271). For this reason, almost everyone in the solar system is equipped with a cortical stack (p. 300). Backups may also be safely archived in secure storage (p. 269) or used to create infomorphs (p. 264). A person may also egocast themselves across the solar system as a form of travel (p. 276).

CORTICAL STACK BACKUPS

Cortical stack implants deploy a network of nanobots throughout the brain that take a snapshot of the mind's neural state, storing the data as a backup within the cortical stack. The average transhuman's cortical stack backs up their ego 86,400 times per day. Only the most recent backup is kept within the stack; older ones are overwritten. Pods and synthmorphs also can be equipped with cortical stacks (though AI-piloted bots often lack this feature), though these versions maintain an updated copy of the ego running in the morph's cyberbrain.

In the case of death, accidental or otherwise, a cortical stack can be retrieved from a corpse and used to recover the character, either as an infomorph or by resleeving them in a new morph. Cortical stacks are diamond-hardened and protected, so they may often be retrieved even if the corpse is badly mangled or damaged. If the corpse cannot be recovered or the cortical stack is destroyed, the backup is lost.

High rollers, well-equipped brinkers, and others in dangerous professions often opt for an emergency farcaster accessory (p. 306) that periodically (usually every 48 hours, but varying according to contract) transmits a backup from the cortical stack to a remote storage facility. This option is quite expensive, however, and so is generally only afforded by the wealthy.

RETRIEVING A CORTICAL STACK

Most cortical stacks are carefully excised from a corpse with surgery. In certain circumstances, however, a character may need to extract a cortical stack in the field, whether because transporting the corpse is impractical or because the dead person is an enemy and they either don't want them knowing who killed them or they want to interrogate them with psychosurgery in a simulspace.

The process of cutting out a cortical stack is called "popping," as a skilled extractor can usually get the smooth-shelled implant to pop right out by making an incision in the correct place and applying pressure. One does need to be careful that the tiny, blood-slick stack doesn't slip away once popped.

Popping can be done with a sharp knife and elbow grease, though it is grisly. Popping a stack is a Task Action that requires a Medicine: [any appropriate field] Test with a timeframe of 1 minute and a modifier of +20. Morphs with stacks in non-standard locations or with anatomical shielding (carapace plates, etc.) around the stack may incur penalties to this test at the gamemaster's discretion. Of course, if you don't have the time for a precise extraction, you can always just cut the entire head off and take it with you.

Once a cortical stack is retrieved, it may be loaded into an ego bridge (p. 328) and used to bring the ego back, either as an infomorph or by resleeving.

Living Subjects: Cortical stacks may be excised from living people, but the process is usually fatal (or at least paralyzing) as it involves cutting through the spinal column. If the target is not unconscious or otherwise incapacitated, they must first be immobilized in melee combat (see *Subdual,* p. 204). Cutting out the stack is handled like a Medicine Task Action as above, but this process inflicts 3d10 + 10 damage on the target. If the test fails, they still inflict 1d10 + 10 damage to the target. If the person removing the stack wants to leave the target alive or harm them as little as possible, they suffer a –20 modifier on the test, but may reduce the damage by 1d10 per 10 full points of MoS. Living through the process of having your stack removed is traumatic; anyone who does so suffers 1d10 mental stress.

DESTROYING A CORTICAL STACK

Cortical stacks have an Armor of 20 and a Durability of 20 for anyone attempting to destroy them.

UPLOADING

Uploading a backup into secure storage is usually handled with a brain scan at the storage facility's clinic using a bread box-sized unit called an *ego bridge* (p. 328). When activated, the ego bridge's sensor array twists open like a morning glory blossom, revealing an enclosure with a neck rest that automatically adjusts itself to morphs with oddly-sized or -shaped heads. The neck rest deploys millions of specialized nanobots

into the brain and central nervous system. The petals are full of sensors that image the brain using a combination of MRI, sonogram, and positional information broadcast by the nanobot swarm in the morph's brain. The ego bridge then builds a digital copy of the person's brain, which is stored away in the service's highly secure, off-the-mesh, hardwired data vaults.

In the case of pods, the ego bridge scans the biological brain bits and also accesses the cyberbrain to copy the parts of the ego residing there. For synthmorphs, who have no biological brain, the process is much simpler, as it simply requires accessing and making a copy of their cyberbrain.

In a standard clinic with an undamaged morph, uploading takes only 10 minutes, 5 with a pod. In other situations, however, the process may take longer if the gamemaster so decides. Uploading from a synthmorph or extracted cortical stack is instantaneous. The ego bridge largely operates itself. While oversight by a medical specialist is a good idea, no test is necessary.

If an uploading character does not plan to return to their morph, it is usually put on ice until someone else resleeves into it. If a new resleeve is not ready and the uploading character doesn't want to leave a potential copy of themselves behind, they can have the morph's mind wiped by the nanobots as part of the uploading process.

Uploading-Resleeving Continuity

In ideal circumstances, a person who is intentionally resleeving (p. 271) can arrange for the uploading and resleeving process to occur with any noticeable loss of continuity. Though the experience of switching from one morph to another is still a bit jarring, the transition itself can be made into a seamless process, with no gaps in awareness or memory, which helps reduce associated mental stress.

In this case, during the process of uploading, the ego bridge is also connected to another ego bridge and the new sleeve. This connection can even be made wirelessly or by farcaster link (with a maximum distance of 10,000 kilometers).

As the mind is uploaded, the ego bridge builds a virtual brain by copying the morph's brain bit by bit, using the data gained from the brain scan. At the same time, this data is slowly copied to the new sleeve as nanobots rewire the sleeve's brain structure (a much slower process). As the transfer occurs, the nanobots in the brain sever individual neural connections and re-route them to their duplicates in the virtual brain, and then eventually to the new brain. Effectively, the character's ego is running partially on the meat brain and partially on the virtual copy. By the time the nanobots sever the last of the neural connections in the old brain, the ego is running completely on the virtual brain and the new sleeve's brain. Once the resleeving is completed, the virtual brain is shut down.

In terms of perceptions, the character, who is awake during this process, experiences a very gradual shift from one morph to the other. As the process takes hours, however (or even longer if done via farcaster), the subject usually entertains themselves with some AR media, VR, or even XP to pass the time.

Uploading After Death

It is possible to upload the mind of a person who has recently died as long as the nanobots have time to scan the brain before cell deterioration kicks in too heavily, which takes approximately 2 hours. It is possible to sustain a corpse for longer by placing it in a healing vat (p. 326) for nanostasis. Post-death uploads may suffer integrity damage; see *Backup Complications*, p. 270.

Cyberbrains may also be retrieved from a destroyed synthmorph and reactivated, assuming they are not damaged too heavily (gamemaster discretion).

Destructive Uploading

Though rare, some people engage in a process called destructive uploading, where the biological brain is literally sliced apart and scanned piece by piece. Considered abhorrent and wasteful by most transhumans, "brain-peeling" is practiced by some bioconservative factions who view it as the only "pure" method of uploading or the only real way to transfer the "soul." Such people typically refuse to resleeve, living out the rest of their lives as infomorphs, quite often in dedicated simulspaces that are treated as a sort of virtual afterlife.

Backup Insurance

Almost everyone, with the exception of neo-primitivists and very young children, has a cortical stack. In the event of death, however, a cortical stack alone will not ensure resurrection unless you have acquired backup insurance (p. 330) to cover the costs of your resleeving. Going without backup insurance for any length of time is taking a severe risk. Some jurisdictions (such as the Titanian Commonwealth) have a practice of bringing everyone back, even if only to an infomorph state, or at least filing the most recent backup away in dead storage just in case someone decides to pay to resurrect them later. Other authorities will simply destroy the stack or, worse, sell it on the black market to a soul-trading syndicate such as Nine Lives.

Backup insurance typically includes a subscription to an uploading facility, usually requiring a visit every 6 months, to ensure that backup is held in safe storage in case of cortical stack loss. People with risky jobs (construction bot supervisor, hypercorp exoplanet staff, girl who fights vicious giant eels for rich jaded audiences, etc.) may back up once a week, or even daily. In the event of a verified death where the cortical stack could not be retrieved, the most recent backup is used to resleeve the person.

At the basic level, backup insurance will bring the character back as an infomorph, at which point they can access their credit and purchase a new morph. More expensive versions will automatically resleeve

you in the pre-purchased morph of your choice. The exceedingly rich will often have customized clones (often of their original body) waiting on ice for them.

Backup insurance often involves a missing person clause, which states that a person will be brought back if they have not checked in for X amount of time (a calendar function automatically handled by your muse) and cannot be located.

It is worth noting that some criminal syndicates also offer backup insurance at a much reduced rate. The likelihood that copies of your backup are being used for illicit purposes, however, is quite high. For some people, however, what happens to a copy of themselves is of no concern.

Backup Insurance Limitations

Backup insurance is not always perfect. Though insurance providers are required to make a reasonable effort to retrieve your cortical stack, for many hypercorps this is a simple cost-benefit analysis that often will not work in the character's favor. If you died in a dangerous area such as the Zone on Mars, in a remote area such as the Kuiper Belt, or are simply difficult to track down (pushed out an airlock somewhere), odds are against your cortical stack being retrieved—instead you will be re-instanced from a backup.

Jurisdiction can also play an important role. The insurance offered by many inner system providers is automatically nullified if you travel to an anarchist habitat, gatecrash, break the law, or engage in certain life-threatening activities like suicide sports or scavenging in TITAN-infected ruins. At the least, they will refuse to retrieve your stack in these circumstances. Likewise, if you struck a backup insurance deal with a medical collective from an autonomist habitat and then go and die on a hypercorp station, the hypercorp is very likely to refuse to recognize the authority of a bunch of anarchists and won't hand your stack over.

Even an archived backup and a missing person clause is no guarantee. A determined enemy could capture you, pry the backup insurance access codes from your muse, keep you on ice or quietly kill you, and then regularly "check in" on your behalf using the access codes so that the insurance provider never realizes you are dead or missing. Though this requires quite a bit of effort, it is often less difficult than dealing with an immortal opponent who keeps coming back no matter how often you kill them.

Other dangers also exist. An entire habitat may be destroyed, taking you, your backups, and your insurance provider's records with it. A resourceful enemy might penetrate a provider's security and delete your backups, or simply bribe the right people to make sure they get "accidentally" corrupted. Given these possibilities, the paranoid often make sure to get multiple redundant backup policies, assuming they can afford it.

Backup Complications

In most cases, backing up/uploading is risk free unless someone tampers with the equipment. If the character suffered brain or neurological damage, the backup is transferred via farcasting, or the upload is made from a dead character, then the backup may be damaged due to missing neural information. In any of these instances, make a LUC Test for the character. If the test fails, they suffer 1 point of mental stress per 10 full points of MoF. Note that this stress (and possible) trauma applies to the backup, not the original character. If the backup is used to re-instantiate the character, however, then the stress is applied.

Resleeving

Resleeving (also called remorphing) is the process of giving a new body to an ego. Changing bodies is a normal part of life for hundreds of millions of transhumans, and it is an even more frequent occurrence for people in certain professions. Characters involved in specialized work may resleeve as often as once a month. Those who travel frequently may do so even more often. Also, given the number of infugees

who died during the Fall but have now acquired a new morph, the vast majority of transhumanity has resleeved at least once. As such, most transhumans are accustomed to resleeving.

Adjusting to a new body takes time and a bit of effort (see *Integration,* p. 272). Resleeving is also difficult psychologically, as reflected by continuity (p. 272) and alienation (p. 272).

Once an ego fully inhabits a new morph, the new morph's cortical stack needs ten minutes to amass a complete backup of the ego.

Resleeving Biomorphs and Pods

Resleeving takes about an hour in a properly equipped clinic. In essence, the process works like uploading in reverse. The new sleeve is hooked up to an ego bridge which infiltrates the brain with nanobots that physically restructure the brain's neural structure and connections according to the map provided by the backup. Sleeving takes six times as long as uploading because the nanobot swarm working as a wet printer in the template brain needs to duplicate the entire physical structure of the ego's neural network. For resleeving, a "wet" ego bridge is used, meaning that the sleeve and ego bridge are submerged in a vat filled with nanogel.

The resleeving process for pods takes only half an hour, as pods brains are half biological and half cyberbrain.

Resleeving Synthmorphs

Resleeving into the cyberbrain of a synthmorph is much easier and quicker, being a matter of copying the backup into the cyberbrain (an instantaneous affair) and then running the backup in its virtual brain state (1 Action Turn). The drawback to synthmorphs is that they are more difficult to acclimate to (see *Integration,* p. 272), they are vulnerable to cyberbrain hacking (p. 261), and synthmorphs are viewed as low class in some cultures.

Evacuating a Cyberbrain

Characters inhabiting a synthmorph cyberbrain may voluntarily choose to evacuate by copying themselves as an infomorph onto another device. This takes 1 full Action Turn. See *Infomorph Resleeving,* p. 273.

Resleeving Costs

The costs involved for the resleeving process itself are generally subsumed in the costs of the backup insurance and/or the new sleeve itself. Costs for individual morphs are noted in the descriptions starting on p. 139. See *Morph Brokerage* (p. 276) for rules on finding and acquiring morphs.

Integration

Getting used to a new body typically takes some time. The character must become acclimated to the changes in height, weight, sex, and capabilities, which often requires unlearning ways of doing things that worked fine for their previous form. Resleeving in a synthetic morph or an uplift is also quite confusing at first, given the drastically different morphologies, change in limb structure (and sometimes amount of limbs), and so on. Luckily, transhuman minds are adaptive things, and this process is aided by the application of mental "patches" during the resleeving process that give the character a bit of a boost for using their new body.

An ego in a new morph makes an Integration Test upon taking control of the body, rolling SOM x 3 (morph bonuses do not apply) and applying modifiers from the Integration and Alienation Modifiers table. The result of the test is explained on the Integration Test table, p. 272.

RESLEEVING AND THE GAMEMASTER

The gamemaster has a fine amount of control over what a character can obtain when resleeving. The characters may be supplied with new morphs by Firewall or whatever employer/patron for whom they are currently working. In this case, the gamemaster can simply assign whatever morphs they see fit—with complete control over enhancements, traits, etc. While morphs should be tailored for the mission at hand, this presents an opportunity for the gamemaster to throw the characters some new toys to play with and also some new challenges to overcome. Gamemasters are encouraged to mix it up, have fun, and give players something they can work with without necessarily giving them everything they want.

In other cases, the availability of desired morphs may be limited by the resleeving location. A small outpost in the wilds of Mars is unlikely to have a wide selection of morphs—in fact, a few rusters and synthmorphs may be all they have. Similarly, large habitats have a high demand for good morphs, so there may be a waiting list for top-of-the-line sylphs or remade morphs, for example. In the same vein, available morphs are going to be subject to local legalities, so getting that reaper morph may be out of the question. Characters could always turn to black market morph providers, but these come with their own risks.

What this means is that gamemasters should never be afraid to say no if a character is pursuing a morph that is unreasonable or potentially disruptive to the game. While it's good form to give the players what they want once in a while, it also makes for more interesting roleplaying to saddle them with morphs that are a little different than what they were hoping for or that come with some interesting challenges, such as a physical addiction. For extra fun, leave the character unaware of a morph's negative traits or secret implants until they reveal themselves. As always, the goal is to have fun, but variety often helps with that. ■

INTEGRATION TEST

TEST RESULT	EFFECT
Critical Failure	Character is unable to acclimate to the new morph—something is just not right. Character suffers a –30 modifier to all physical actions until resleeved.
Severe Failure (MoF 30+)	Character has serious trouble acclimating to the new morph. They suffer a –10 modifier to all actions for 2 days plus 1 day per 10 full points of MoF.
Failure	Character has some trouble acclimating to new morph. They suffer a –10 modifier to all physical actions for 2 days plus 1 day per 10 full points of MoF.
Success	Standard acclimation period. The character suffers a –10 modifier to all physical actions for 1 day.
Excellent Success (MoS 30+)	No ill effects. Character acclimates to new morph in no more than a few minutes.
Critical Success	Lookin' good! This morph is an exceptionally good fit for the character. No ill effects; gain 1 Moxie point for use in that game session only.

INTEGRATION AND ALIENATION MODIFIERS

TEST RESULT	EFFECT
Familiar; character has used this exact morph extensively in the past	+30
Clone of prior morph	+20
Character's original morph type (what they were raised with)	+20
Adaptability trait (Level 2)	+20
Adaptability trait (Level 1)	+10
Character has previously used this type of morph	+10
First time resleeving	–10
Character is an AGI sleeving into a physical body	–10
Character is an uplift resleeving in a non-uplift (of their type) body	–10
Synthetic morph	–10
Sex change (from last morph)	–10
Morph is heavily modified	–10
Morphing Disorder trait (Level 1)	–10
Morphing Disorder trait (Level 2)	–20
Infomorph (does not apply to AGIs) (Alienation Test only)	–20
Fork (Alienation Test only)	–20
Morphing Disorder trait (Level 3)	–30
Exotic morph (octomorph, neo-avian, novacrab, swarmanoid, etc.)	–30

ALIENATION TEST

TEST RESULT	EFFECT
Critical Failure	Extreme Dysmorphia. The character doesn't like their new sleeve at all and suffers 2 stress points per 10 full points of MoF.
Failure	Character is uneasy about the new morph and suffers 1 stress point per 10 full points of MoF.
Success	Character adapts to their new look well. No ill effects.
Critical Success	Best. Morph. Ever. The new morph jives perfectly with the character's sense of self, and even enhances it somewhat. The character actually heals 1d10 ÷ 2 (round up) stress points.

ALIENATION

After loss of continuity, the other major factor impacting resleeving characters is alienation. Once the ego has its new sleeve under control, it's time to look in the mirror. The alienation test reflects the experience of coming to terms with a new face, skin, and brain. For example, transferring to a radically different morph (such as a swarmanoid) can be difficult to grasp. Uplifts often have difficulty getting acquainted with the differing hormonal urges of a human biomorph and vice versa. While the character's ego is as it was in their last sleeve, the brains and neurochemistry of many morphs may alter aptitudes like WIL or COG. The effects of this can be frustrating or disorienting.

Every character makes an Alienation Test to reflect how mentally stressful it is to get a grip on their new body, rolling INT x 3 and apply modifiers from the Integration and Alienation Modifiers table. Consult the Alienation Test table to determine the effects.

CONTINUITY TEST

Perhaps the biggest shock that strikes most resleeving characters is the loss of continuity of self. This is particularly true for characters who died. If their cortical stack was retrieved, they will remember their own death. If they were restored from an archived backup, they will not remember their death, but they will have lost an entire period of their life—all the way back to their last backup. In fact, if their body was not recovered, they may not even know that they are dead for certain—there may be a surviving copy of themselves out there. The driving point in this loss of continuity is a sort of existential crisis—they are no longer the original person they once were. This leads some to question whether they are who they think they are, or are they some poor imitation and not a real person at all?

To determine how this loss of continuity affects a character, make a Continuity Test by rolling WIL x 3. Every character suffers stress from loss of continuity, as noted on the Continuity Stress table. Reduce this stress damage by 1 point per 10 full points of MoS on the Continuity Test, or increase it by 1 point for every 10 full points of MoF.

INFOMORPH RESLEEVING

Rather than resleeving into a physical body, a backup may instead by instantiated as an infomorph, a purely digital form. Infomorphs are distinct from backups in that backups are inert files. Infomorphs are backups imprinted onto a virtual brain template and run as a program. This virtual brain state must be run on a specific device and follows all of the rules noted for infomorphs on p. 264. Infomorphs may copy themselves to other devices, typically erasing themselves from the previous device as they go. Infomorphs that copy without erasing are treated as forks.

Characters instantiating as infomorphs must make Continuity and Alienation Tests, just like resleeving.

Infomorphs may be resleeved into physical morphs, following normal resleeving rules.

I wake up with a taste like guava and umami fresh on my tongue. Last night there was laughter. We drank quinoa wine, and I was introduced to people I had never met before, though I had years of intimate knowledge of most of them. Half of Illyria Module is curled naked around me in my sleeping chamber. Last night we made music with synthesizers, wood blocks, and a lur. We drank mushroom tea brewed in water from a rogue comet. Looking around me as the morning sun starts to light the far orbital horizon of Ceres, it appears we had an orgy. Last night was my resleeving party. This version of me—me 3.0—is ready for life.
—Zheng du Thierry, Carnival of the Goat

CONTINUITY STRESS

SITUATION	STRESS VALUE
Backup from cortical stack	
Character remembers peaceful or not notable death	1d10 ÷ 2 (round down)
Character remembers sudden or violent death	1d10
Backup from archive	
Short memory gap (less than 1 day)	1d10 ÷ 2 (round down)
Memory gap greater than one day	1d10
Not knowing if/how you died	+2
Uploading-to-resleeve with continuity (p. 269)	0
Uploading-to-resleeve without continuity	1d10 ÷ 2 (round down)
Character is a fork	2

FORKING AND MERGING

With all of these backups of transhuman minds on file and an abundance of mesh space on which to run them as virtual brains, one might wonder what's to stop post-Fall transhumanity from multiplying its numbers by running additional copies of them. The short answer is: nothing, aside from massive social stigma and thorny psychological issues. Taking a backup of a transhuman mind, copying it, and re-instancing it as an infomorph is called *forking*. It's one of the most useful and still-controversial applications of transhumanity's brain science.

There are four classifications of forks: alpha, beta, delta, and gamma. Though typically copied as infomorphs, there is nothing preventing a fork from being sleeved in a physical morph as well, other than legalities and custom.

ALPHA FORKS

An *alpha fork* is an exact copy of the original ego, re-instanced as a separate infomorph. An alpha fork may be created by copying and running an infomorph (from a backup, infomorph, synthmorph cyberbrain, or directly from the cortical stack). Alpha forks are an exact copy of the character's ego, with all of the same skills, memories, stats, traits, personality, etc. New alpha forks must make an Alienation Test (p. 272), and possibly a Continuity Test (p. 272) if copied from a backup.

Creating alpha forks is illegal in many jurisdictions, including most of the inner system and the Jovian Republic. In others it tends to be viewed with distaste, though there are some habitats/cultures in which it is encouraged.

BETA FORKS

Beta forks are partial copies of the ego. They are intentionally hobbled so as to not to be considered an equal to the character, for legal and other reasons. Beta forks have most of the same skills as the original ego, though sometimes reduced. Their memories are also drastically curtailed, usually tailored to whatever task they are intended to perform.

Beta forks are created by a process known as *neural pruning* (p. 274). They are legal and even common in many places, except for bioconservative holdouts like the Jovian Republic, though delta forks are more favored. Beta forks rarely have anything resembling civil rights or citizenship and are usually treated as the property of the originating ego. They are commonly used as digital aids or to represent the original ego when communicating with others over great distances.

A beta fork's stats are determined as follows:

- Reduce all aptitudes by 5 (to a minimum of 1). This affects all skills as well. Likewise, this reduces LUC by 10 and INIT by 20.
- Active skills have a maximum value of 60.
- Moxie is reduced to 1.
- The Psi trait is removed. At the gamemaster's discretion, other traits may no longer apply as well.

Additional changes may apply as determined by the neural pruning test. Beta forks take 1 minute to generate.

DELTA FORKS

Delta forks are extremely limited copies of an ego. They are more akin to AI templates upon which the ego's surface personality traits are imprinted. Also created via neural pruning, delta forks are highly functional (as competent as a beta fork or AI) but have extremely limited skills and heavily edited memories, usually to the point of being functional amnesiacs.

A delta fork's stats are determined as follows:

- Reduce all aptitudes by 10 (to a minimum of 1). This affects all skills as well. Likewise, this reduces LUC by 20 and INIT by 40.
- Active skills have a maximum value of 40. The fork may have no more than 5 Active skills.

- Knowledge skills have a maximum of 80. The fork may have no more than 5 Knowledge skills.
- Moxie is reduced to 0.
- The Psi trait is removed. At the gamemaster's discretion, other traits may no longer apply as well.

Additional changes may apply as determined by the neural pruning test. Delta forks take 1 Action Turn to generate.

Gamma Forks

More commonly known as *vapors,* gamma forks are massively incomplete, corrupted, or heavily damaged copies of an ego. Vapors are not intentionally created and are instead the results of botched uploads, scrambled backups, incomplete or jammed farcasts, or infomorphs/forks that were somehow damaged or went insane. It is extremely rare for anyone to purposely create a vapor for anything other than research use, although they can crop up in some interesting places. For example, poorly made skill software occasionally includes enough of the personality traits and memories of the person the skill was taken from that it can behave in a vapor-like fashion when used.

Because vapors are anomalies rather than purposeful creations, the characteristics of individual gamma forks are left to the gamemaster. They should have some or all of the following: reduced skills, reduced aptitudes, incomplete or incoherent memories, negative mental traits, and persistent mental stress or traumas, including derangements and/or disorders.

Neural Pruning

Most forking is done on the fly—something comes up that the character needs a fork for, so they whip one up on the spot. Neural pruning is the art of taking a backup/infomorph and trimming it down to size so that it functions as either a beta or delta fork.

Beta forks are created by taking a virtual mind state that is intentionally inhibited and filtering a copy of the ego through it. Like a topiary shrub, the portions of the character's neural network that exceed the capacities of the intended fork are trimmed away. In addition to the changes noted under *Beta Forks* (p. 273), characters may voluntarily choose to delete/decrease skills and remove memories.

Delta forks are created by excising the ego's surface personality traits and applying them to an AI template. In this case the ego's memories are usually excluded entirely—it is easier to start with a blank delta fork and feed them the specific memories/knowledge they need. As with beta forks, characters making delta forks may voluntarily choose to delete/decrease skills and keep specific memories.

Transhumanity's grasp of neuroscience extends to scanning and copying a mind, but the most intricate workings of memory are still imperfectly understood. Making precise edits to individual portions of a neural network (to alter recollections, skills, and the like) is still a black art. The difficulty with neural pruning is that taking a weed whacker to the tree of memory isn't an exact science. Specific memories may not be excised or chosen—at best, memories may be handled in broad clumps, typically grouped by time periods no finer than 6 months. For simplicity, most beta forks are created by removing all memories older than 1 year.

When creating a beta or delta fork, the character must make a Psychosurgery Test (other parties may make this test on the character's behalf, representing that the character is giving them access to prune the fork appropriately). If the character succeeds, the fork is created as desired. If the test fails, the gamemaster chooses one of the following penalties for every 10 full points of MoF. Some of these penalties may be combined for a cumulative effect:

- 1 additional skill decreased by –20
- Fork acquires a Negative mental trait worth 10 CP
- Fork suffers 1d10 ÷ 2 (round up) mental stress
- Extra memory loss (gamemaster discretion; beta forks only)
- 1 Positive trait lost

Neural Pruning with Long-Term Psychosurgery

Rather than generating forks on the fly, some characters prefer to have carefully-pruned forks on hand, stored as inert files that can be called up, copied, and run as needed. These forks are crafted with long-term psychosurgery, meaning that they suffer fewer drawbacks and the memories may be more finely tuned.

Long-term neural pruning requires a Psychosurgery Test as above, but with a +30 modifier. Delta forks take 1 week to prune this way, beta forks take 1 month. Additional modifications may be made to the fork using any of the normal rules for psychosurgery (p. 229).

It is worth noting that some people prefer to use forks of themselves or loved ones rather than a muse. Likewise, some wealthy hyperelites are known to keep copies of their younger backups on hand, sometimes for decades, and re-instance these when their prime ego has enough skill and experience to completely outclass its younger selves. Though technically these are alpha forks, their lag behind the original ego is comparable in degree to that of a beta fork. This is rumored to be the method used by the Pax Familiae in instancing her army of cloned selves.

Handling Forks

Gamemasters are encouraged to allow players to roleplay their character's own forks. It is important to note, however, that even with alpha forks, once the fork and originating ego diverge, they develop onward as separate people. The events that shape the primary ego's personality, character, and knowledge will not happen—or even if they do, probably not in the same way—to the fork, and vice versa. The exact dividing line between an ego and a fork is a central philosophical and legal debate among many transhumans.

This means that gamemaster should not be afraid to pull a fork out of a player character's hands and

make them into an NPC if they start too diverge too greatly. Similarly, if a fork begins to learn information that the main character does not (yet) have access to, it is probably also better to run the fork as an NPC in order to avoid metagaming.

It is entirely possible that a fork might decide that it will no longer obey the originating ego and carry about doing its own thing. This usually only occurs with alpha forks, who are essentially a full copy anyway, and as time passes the idea of merging back with the original ego becomes unappealing. Beta and delta forks are quite aware of their nature as "incomplete" copies, and so usually return back home to the ego for reintegration. In rare cases, however, even these might make a break for life on their own.

MERGING

Merging is the process of re-integrating a previously-spawned fork with the originating ego. Merging is performed on conscious egos/forks, transferring both to a single, merged ego. The process is not difficult to undergo when two forks have only been apart a short time. As forks spend more time apart, though, merging becomes a severe mental ordeal.

To determine if merging goes well, a Psychosurgery Test is called for (made either by the ego or another character overseeing the process). The Merging table lists modifiers for this test as well as the result of success or failure.

For synthmorphs, merging takes one full Action Turn. For biomorphs, an ego bridge (p. 328) or mnemonic augmentation (p. 307) is required to merge, and the process takes 10 minutes.

The result of the process is a unified ego, whether or not the Merging Test succeeds. Psychotherapy (p. 209) and psychosurgery (p. 229) can troubleshoot bad merges over time.

EGOCASTING

In spite of being a spacefaring civilization with outposts throughout the solar system and beyond, transhumanity makes scant use of spacecraft for interplanetary travel. Shuttlecraft using a variety of propulsion systems make regular trips between habitats, planetary surfaces, and moons. But for any trip longer than 1.5 million kilometers—the distance a fusion drive craft can cover in a day—people egocast.

Egocasting is transhumanity's most advanced personal transportation technology, though only the character's ego actually travels. Egocasting combines the technologies of uploading and quantum farcasting to transfer a backup (or sometimes even a conscious ego, see p. 269) over interplanetary distances.

Though egocasting occurs at the speed of light, egocasting times vary drastically with distance.

THE SELF

Forking and merging have changed the way transhumanity thinks about the self and what it means to have a well-integrated personality.

While forking is child's play from a technological standpoint, the psychological and social effects of cloning a mind mean that most people are cautious about employing forks. Some jurisdictions ban forking outright for all but medical uses, while others have severe restrictions. In many hypercorp jurisdictions, for instance, alpha forks are illegal and letting a beta fork run for more than 4 hours without merging violates the modern descendants of 20th-century anti-trust laws. Similarly, the Jovian Junta and other biocons servatives ban forking entirely.

Disposing of unwanted forks is another thorny issue. In some places, it's as simple as deleting them, because a stored mind has no legal status. In others, a fork that doesn't wish to merge back with its originating ego might be accorded some rights, though these are generally only granted to alpha forks.

Most significantly, though, running a short-term fork of oneself for periods of an hour or less is an easy task for many transhumans. Many people use forks of themselves to get work done in everyday life, and almost everyone has at least experimented with forking at some point.

Transhumans view forking a bit like early 21st-century humans viewed drinking and drug use. A bit might be okay, but someone overdoing it will be stigmatized. This is because most transhumans understand the psychological consequences of overusing forks. ■

MERGING

TIME APART	MODIFIER	SUCCESS	FAILURE
Under 1 hour	+30	Seamless ego with memories intact from both	Memories intact, (1d10 ÷ 2, round down) – 1 SV
1–4 hours	+20	Solid bond, memories intact	Memories intact, (1d10 ÷ 2, round down) SV
4–12 hours	+10	Memories intact, 1 SV	Minor memory loss, (1d10 ÷ 2, round up) SV
12 hours–1 day	+0	Memories intact, 2 SV	Moderate memory loss, (1d10 ÷ 2, round up) + 2 SV
1 day–3 days	–10	Memories intact, 3 SV	Major memory loss, 1d10 + 2 SV
3 days–1 week	–20	Memories intact, 4 SV	Major memory loss, 1d10 + 4 SV
1 week+	–30	Minor memory loss, 5 SV	Severe memory loss, 1d10 + 6 SV

Egocasting within a cluster or planetary system is usually just a matter of minutes. Egocasting from the sun to the Kuiper Belt, however, takes between 40 and 70 hours, and so egocasting all of the way across the solar system can take even longer.

Once an ego arrives at the destination receiver, it can be archived, run as an infomorph, or resleeved as normal.

Egocaster Security

Beaming yourself across interplanetary space is a mature technology and usually works seamlessly. Because egocasting uses quantum farcasters, there is no danger of radio interference cooking the signal and causing data loss. Normally the entire process is mediated by the character's backup service, and security breaches are uncommon.

However, there are several risks involved in egocasting. The most obvious is that the character's consciousness is transferred as a digital backup file at the destination. If the egocaster on the other end is not trusted or the networks at the destination are privately controlled by the receiver, the character is potentially putting themself at the mercy of their host. Most hypercorps consider meddling with a transmitted ego to be a serious breach of etiquette, whereas autonomist types would find it unthinkably repressive. However, political extremist groups and criminal organizations in control of egocasters suffer from fewer restraints.

A more subtle risk is the possibility for hackers to exploit security holes in the egocaster and its attached virtual space to steal a fork of the character. This is extremely difficult to do. It almost never happens during a normal upload, because the uploading services are security conscious to the point of paranoia. Even so, the forks stolen by such attempts more often than not end up being vapors, because the intruder is usually stopped before a full copy can be obtained.

Darkcasting

Characters who want to egocast without the attention of public officials like Immigration and Customs must seek out so-called darkcasting services—illegal farcaster transceivers typically operated by criminal syndicates and other clandestine groups. To locate such a service, a character must use their Networking skill and possibly their reputation (p. 285).

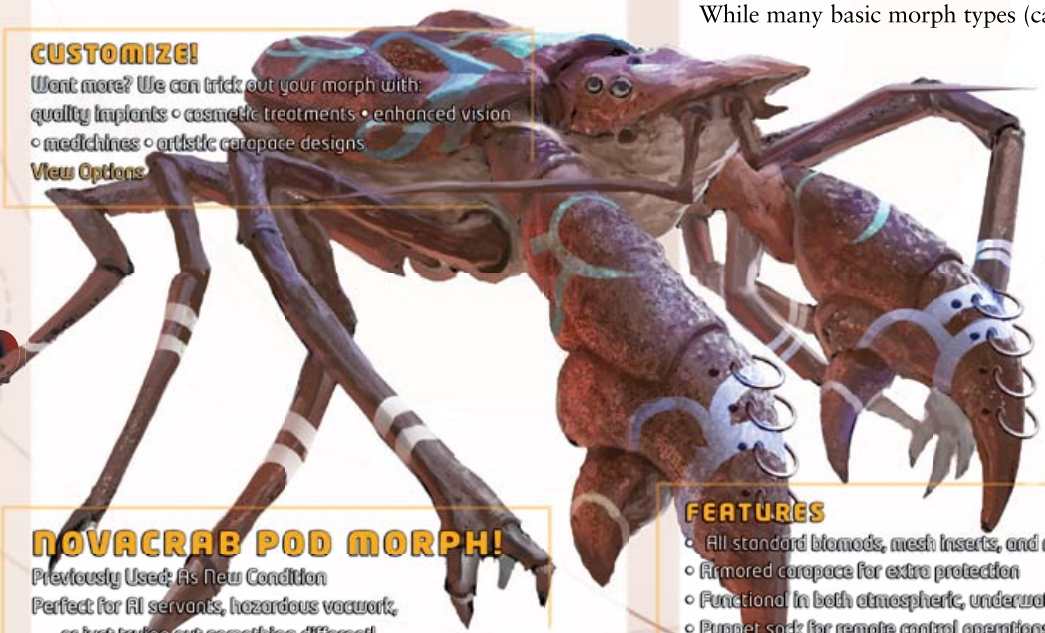
Morph Brokerage

Morphs are a major commodity in transhuman society. The technology and materials needed to grow new morphs are cheap and abundant, though they take time. Cloned biomorphs take at least a year and a half, even with accelerated growth. Pods, which are typically pieced together from vat-grown parts, take about 6 months. Synthmorphs like cases and synths can be produced in a day, whereas more complicated models can take a week or more. Theoretically, supply will one day outstrip demand to the point where flesh is free.

Characters have several options for acquiring morphs when they travel by egocast, suffer heavy damage, or just feel like a new body. When egocasting, the most common method for travelers of middling means is to store their current morph in a body bank's secure facility and lease a morph at their destination. Less commonly, characters may rely on public resleeving facilities, or, if they have the means, they may purchase a new morph outright. Characters who expect to stay at their destination indefinitely or who decide to resleeve but aren't traveling might instead opt for a trade-in on their old body, leaving it behind permanently in most cases.

Morph Availability

As noted under *Resleeving and the Gamemaster* (p. 271), finding the model of morph you want is not always easy. While many basic morph types (cases, synths, splicers)



are generally available, characters can also locate new morphs using their Networking skills (see *Reputation and Social Networks*, p. 285). Certain morph types are harder to find then others; the gamemaster should apply an appropriate modifier for any morphs that seem rare or unusual (for example, swarmanoids or reapers). Likewise, some morphs may simply be unavailable in a given locale. Rusters are rarely available off of Mars, for example, while on Europa, most morphs are exotic local aquatic varieties.

The gamemaster determines which factions are able to provide new morphs in a given locale. Factions will not provide morphs that are unavailable to that faction as starting characters. If the faction is not the dominant one in that locale, a penalty should be applied, ranging from –10 to –30. Despite having a presence in a given locale, some factions may be unable to provide morphs at all.

If the character is seeking a customized morph with specific implants or enhancements, the search will be more challenging. The gamemaster should apply a –10 to –30 modifier here as well, depending on the extent and legality of the modifications sought.

Morph Acquisition

Once a morph is located, the character may call in favors (p. 285) or pay credits for it. Morph costs are noted on the Morph Costs table. In the inner system, morph prices are often inflated by demand in the market such that the most desirable morph types can cost a small fortune. Outsystem, prices in rep are more reasonable but still steep due to population pressures on life support-dependent outer system settlements. For travelers and frequent body hoppers, there are a number of ways to defray these costs.

Brokerage and Matchmaking

Finding morphs for travelers and the bodiless is a specialized skill demanding deep social networks and a flair for negotiation. In general, it's a seller's market, so brokers (or "matchmakers," as they're called in the open economy) act as agents for the person seeking a body. The Morph Costs table assumes a 10% fee paid to the broker. Characters wishing to cut out the middleman may reduce cost by 10% but take a –30 penalty on their Networking Test to locate an available morph.

Customized Morphs

If a character seeks to have a customized morph (with extra bioware, cyberware, or nanoware implants or robotic enhancements), the costs for these enhancements are added to the morph's cost (if the gamemaster chooses, discount package deals may apply). Likewise, morphs may come saddled with positive or negative morph traits (p. 145). These traits raise or lower the morph's cost at a rate of +500 credits per CP for positive traits, or –200 credits per CP of negative traits. Negative traits typically reflect abuses the morph has suffered at the hands of previous occupants.

Morph Costs

Morph Type	Cost
Biomorphs	
Flats, Splicers	High
Octomorphs	Expensive (30,000+)
Furies, Ghosts, Remade	Expensive (40,000+)
Futuras	Expensive (50,000+)
All others	Expensive
Pods	
Workers, Pleasure Pods	High
Novacrabs	Expensive (30,000+)
Synthmorphs	
Cases	Moderate
Synths, Dragonflies	High
Slitheroids, Swarmanoids	Expensive
Flexbots	Expensive (30,000+)
Arachnoids	Expensive (40,000+)
Reapers	Expensive (50,000+)
Positive morph traits	+500 per CP
Negative morph traits	–200 per CP

Trade-In

For those who wish to leave their old morph behind permanently, trade-ins on current morphs are an option. The high demand for bodies means that a buyer is almost always available unless the gamemaster finds extenuating circumstances. Morphs may be traded in for the value shown on the Morph Costs table (adjusted for any positive or negative traits), less a 10% physical exam and finder's fee. This is either paid to the morph broker in cred or rendered as a favor using rep.

Patron Provisioning

Characters on missions for rich or influential patrons may have morphs provided for them. Normally such provisions are made for the duration of a job, although less commonly the morph itself might be payment for services rendered. Gamemasters are encouraged to be creative with such arrangements, though players should be advised that such bargains can quickly turn Faustian.

Black Market Morphs

Black market body traders promise to provide the buyer with morphs and upgrades of choice regardless of a habitat's laws against weapons or implants, in addition to bypassing standard arrival registration via darkcasting. Illegal morphs usually come with a price markup (+25% at least), whereas used morphs with unsavory backgrounds (and traits) can usually be acquired on the cheap (–25%).

Indenture

Characters who find themselves too destitute to afford a new morph can strike a deal for indentured service—a "deal" that is rarely advantageous to the

new indenture. Typical contracts require years of indentured labor—terraforming Mars, herding comets, asteroid mining, constructing habitats, colonizing exoplanets, etc.—in exchange for a cheap synthetic morph or splicer at the end of the term. Gamemasters may use their discretion in offering such terms, though in many cases the terms offered will temporarily or permanently end the character's career as a free agent. Hypercorps using indentured labor are notorious for changing the terms at a whim, extending the service period, or slamming the indenture with a slew of hidden and outrageous charges that were not made clear up front. Characters may, of course, enter into such service fully intending to grab their morph and run at the first opportunity, but the hypercorps are very protective of their investments. Indentures are closely monitored and tracked, and the hypercorps are not above sending ego hunters to retrieve a runaway.

Public Resleeving

Some locales, notably Titan, have a well-developed public resleeving infrastructure intended to provide a body to anyone who needs one. Morphs provided are usually unremarkable cases, synths, or splicers with no Positive traits or optional implants. Anyone holding citizenship in a locale with public resleeving may apply for a body. Wait times are between a month and two years, with Reputation influencing wait times at the gamemaster's discretion.

Renting Morphs

For temporary visits where an infomorph won't do, morphs may be leased rather than bought. The cost to rent a morph is 1% of its cost per day, plus a Low charge for resleeving. This cost includes rental insurance (see below). If the rental insurance is waived (not always possible unless you have a good Rep), the rental cost may be reduced by half.

Characters who are leasing a morph may also use their previous morph as collateral. In this case, deduct the cost of the character's current morph from the rental morph before calculating the 1% cost per day, with a minimal rental cost of 10 credits per day.

Penal Lease

Characters visiting the inner system or Jovian Republic may be able to lease morphs belonging to prisoners. In most jurisdictions, criminals are sentenced to terms in rehabilitative simulspace with a stipulation that the prisoner's morph becomes state property during their term of incarceration. Morphs acquired this way often have complicated histories but also tend to have modifications useful to Firewall agents. Conversely, characters who find themselves imprisoned may be subject to having their body leased out during incarceration.

The effects of taking a penal lease are at the discretion of the gamemaster. A character may have to pull some strings with their Reputation in order to lease such a morph, especially if it has restricted or illegal modifications. Negative traits, cases of mistaken identity, and unfortunate encounters with friends and associates of the morph's former occupant are among the possible drawbacks to this type of arrangement. On the up side, penal leases may reduce costs for both leasing and insuring the morph, again subject to the gamemaster's discretion.

Rental Insurance

Leased morphs must be covered by an insurance policy, which often restricts the character from breaking the law or taking the morph anywhere too dangerous or lawless. Characters may purchase hazard insurance that will cover taking the morph into certain dangerous situations, but this will double the rental price at minimum.

CUSTOM-GROWN OR -DESIGNED MORPHS

Some people are very particular about their morphs. To them, nothing "off the shelf" will do, even if it's a customized model tricked out with specific implants, traits, and biosculpting. Instead, they desire something unique, something that must be specially grown or designed.

In the case of biomorphs, this can mean several things. Usually it means that the patron desires a very specific set of genetic traits. This could be traits from their original genetic lineage, traits copied from someone they idolized or honored, genes artfully crafted by a renowned genetic designer, or mystery traits purchased at great expense from the Factors or extracted from a lost TITAN lab. Alternatively, it could mean the client seeks something more specific, such as an exact duplicate clone of their original body.

While it is possible to put an existing morph in a healing vat and alter its genetics with metamorphing nanovirii in a matter of days, these procedures are difficult and prone to disaster. In many cases, it is preferred to simply grow the desired clone from scratch, though even with accelerated growth this takes from 1.5 to 2 years (or 6 months to 1 year in the case of pods). Nevertheless, some hyperelites have taken steps to ensure that the morph they desire is available at all likely egocast destinations.

Though rarer, custom synthmorphs are sometimes sought after, usually by people who wish to showcase unique or artistic robotic designs, but sometimes also by engineers or agents who are field-testing prototypes. Assuming blueprints are available, such models can be constructed in a matter of hours or days.

Aside from time, the largest barrier to custom and unique morph designs is typically cost. Ultimately it is the gamemaster's decision on what expenses such measures entail—typically starting at Expensive and moving up—or even whether they are possible at all. ■

If a character suffers extensive organic damage or death while insured, the insurance will cover 80% of the morph's cost, meaning that the character is expected to pay the other 20%. If they cannot pay, their possessions or their stored morph may be seized in payment.

If a character violates their insurance policy by intentionally putting themself in harm's way above the threat level at which the policy was purchased, without first communicating with and rendering payment to the insurer, the policy may be declared void. If the leased morph dies under a voided policy and the character cannot pay to replace it, their possessions and stored morph may be subject to seizure.

Seizure takes different forms depending upon the local economy and legal system. In hypercorp space, it is a straightforward seizure of liquid assets, including forced uploading if the character's morph is seized. Elsewhere, the character is more likely to end up owing a lot of favors or taking severe hits to their reputation, but they are unlikely to undergo forced uploading or outright physical seizure of their morph.

IDENTITY

Given the nature of resleeving technologies, identity is a fluid concept in *Eclipse Phase*. Transhumans are used to the idea of identifying people by how they look or even by their biometric data, but this is no longer a certified method. What you look like may drastically change from one day to the next. You may see an olympian you recognize, but perhaps it's been awhile, so you're no longer certain that it's the same person still in that morph. If you're sleeved in a popular off-the-rack morph, there may be hundreds of other cloned morphs that look exactly like you out there—perhaps useful if you desire to blend in. Similarly, security services can no longer rely on biometric technologies. Forensics may be able to identify an individual morph's presence at a crime scene, but proving who was in that morph at the time is another matter.

Identity is, of course, tied to ego, and various authorities have instituted verification and security measures based on this. Within the inner system, each ego is given an ID number, which is used to validate their identity, citizenship, legal status, credit accounts, licensing, etc. This ego ID is verifiable by the person's brainwave patterns, which remain the same even when resleeving. When an ego uploads, the uploading service is required to incorporate this ego ID into the person's backup/infomorph. Likewise, when that person resleeves, the service handling the procedure is required by law to verify the ego's ID before downloading. The ego ID is then hardcoded into the morph itself in the form of a nanotattoo on the tip of the person's index finger. This nanotat can be easily scanned at security checkpoints to verify identity.

Though efficient, this system is far from perfect. For one, ID record-keeping is far from standardized and varies drastically from habitat to habitat. Most do not share records with each other unless they are part of the same political alliance in order to protect their citizens' privacy. For example, Lunar-Lagrange Alliance stations do not share citizenship ID data with the Planetary Consortium, though they do share with each other.

On top of this, many identity records were lost during the Fall, a situation that was undoubtedly exploited by those who preferred to erase their past or adopt a new persona. These all make for a situation where identity records are patchwork at best. Officials must also rely on the security of other habitats for ID verification. If a person egocasts to Nectar on Mars from Qing Long in the Martian Trojans, and the Nectar officials have no record of this person, they can only trust that the Qing Long officials did their job when verifying the subject's ID and background.

To make matters worse, many autonomist habitats operate without identity checks altogether. Though some ID measures are still used, both to prevent reputation system gaming and to be able to identify bodies in the case of death, these uses are significantly more lax and few records are kept. Therefore, when autonomists and the like egocast to habitats that require ID, they are assigned a temporary ID for the duration of their stay (and sometimes any future visits).

IDENTITY VERIFICATION

There are three ways to verify someone's identity: nanotat scan, brainwave scan, and checking the cryptographic hash on a digital mind.

NANOTAT SCANS

Special encoded nanobots are used to create a small nanotat on a person's index finger. These nanobots contain encoded information that includes their name and identity, brainwave pattern, citizenship/legal status, credit account number, insurance information, and licenses. Depending on the local habitat laws, it may include other information such as criminal history, travel history, restricted implants, employment records, and so on. This nanotat may be read by anyone with a special ID scanner that reads the nanobot encoding.

ID nanotats include information on the company that did the resleeving, so that the data may be accessed and verified with their records online. The data on the nanotat is also cryptographically signed with the company's public key, meaning that anyone who checks the data and the signature online can tell if the data has been altered.

BRAINWAVE SCANS

Brainwave scans are one of the few types of biometric prints that stay with an ego no matter what morph it is in. They are impractical for most security purposes as they require a scan with a combination electroencephalogram and neuroimaging device, referred to as a brainprint scanner, which takes approximately 5 minutes. This device measures the subject's baseline brainwave pattern as well as the subject's brainwave signature responses when they think certain thoughts

or sense certain patterns. These scans are all but impossible to fool, however, barring hacking of the brainprint scanner itself, and so are considered quite reliable. For this reason they are occasionally used in high-security facilities.

It is worth noting that infection by some variants of the Exsurgent virus, notably the Watts-Macleod strain (p. 367), sometimes alters a person's brainwave patterns, but not in every case.

Digital Code

Digital ID codes are often incorporated into backups and infomorphs. Not only does this help identify who the backup belongs to, but it serves as an electronic signature for verifying ID when the backup is to be resleeved. This digital code typically contains the same information as the nanotat ID, and is signed with a cryptographic hash that makes it difficult to forge and which can be verified online. AIs and AGIs also feature such built-in codes.

Circumventing ID Checks

Firewall sentinels and clandestine agents often have a need to hide or alter their identities. While ID system are challenging, they are not insurmountable.

Fake IDs

The easiest way to bypass security checks is to establish a fake ID. Given the patchwork nature of identity records and the lack of any centralized authority, this is not very difficult. Numerous crime syndicates and even some autonomist groups maintain a thriving ID fabrication business, often with complete histories and medical covers for implants that might be restricted or illegal.

These IDs are usually registered with habitats that are either known criminal havens, have autonomist sympathies, or are isolated and remote. Though the ID is actually verifiable and registered with these stations, the potential shady origins of such IDs is known to most inner system authorities and so the character may be exposed to extra scrutiny or monitoring. Fake IDs may be acquired that are registered with more respected authorities, but this often requires a much higher expense or connections to hypercorp clandestine operations.

Black market darkcast and resleeving options offer fake IDs as a matter of course.

Altering Nanotat IDs

Special nanobot treatments may be manufactured to erase, rewrite, or replace nanotat IDs. Erasing a nanotat is easy, but not having one is a crime and immediate grounds for suspicion in many habitats. Rewriting a nanotat is also easy, though this means that the nanotat will fail its authorization online unless the encryption has also been cracked (p. 253). Replacing a nanotat ID with a fake one is just as possible, and is part of the process of acquiring a fake ID.

Digital ID Tampering

Digital ID codes may also be tampered with, though like nanotat IDs this will mean that the ID fails online verification unless the encryption is also defeated (p. 253).

Life in Space

Transhumanity is not just a spacefaring race, it is also largely space-dwelling. While a substantial portion of transhumanity inhabits planetary bodies like Mars, Luna, Venus, and the moons of the gas giants, the balance live in a variety of space habitats, ranging from the old-fashioned O'Neill cylinders of the inner system to the Cole bubbles of the outer system.

Space Habitats

Space habitats come in many sizes and configurations, from survivalist outposts designed to support ten or fewer people to miniature worlds in resource-rich areas housing as many as ten million people. In heavily settled regions of space, such as Martian orbit, habitats may be integrated into local infrastructure, relying to some extent on supply shipments from other orbital installations.

More commonly, especially in the outer system, habitats are independent entities. This usually means that in addition to the main space station, the habitat is attended by a host of support structures, including zero-g factories, gas and volatiles refineries, foundries, defense satellites, and mining bases.

Habitats—especially large ones—sometimes have visitors, as well. Majors habitats are crossroads in space. In addition to scheduled bulk freighter stops, they may have hangers-on such as scum barges, prospectors, or out-of-work autonomous bot swarms.

Many habitats have some form of transportation network. This is most common in large cylindrical habitats with centrifugal gravity. Common solutions for public transit include monorail trains, trams, and dirigible skybuses. Common personal transit options included bicycles, scooters, motorcycles, and microlight aircraft, with larger vehicles being uncommon and usually reserved for official use.

Most habitats with large interior spaces also use augmented reality overlays to create consensual hallucinations of a sky and clouds, to which most residents keep their AR channels tuned. One would think that in space, talking about the weather would have disappeared from transhumanity's repertoire of small talk, but the habit persists—only the weather discussed is usually virtual (if it's not real "weather"—solar flare activity and the like).

Cluster Colony

Clusters are the most common form of microgravity habitat. Clusters consist of networks of spherical or rectangular modules made of light materials and connected by floatways. Typically business and residential modules are clustered around arterial floatways and infrastructure modules such as farms, power, and waste recycling. Limited artificial gravity areas may exists, frequently parks or other public places and specialized modules like resleeving facilities (morphs often keep better when stored in gravity). Arterial floatways in large clusters may have "fast lanes" where a constantly moving conveyor of grab-loops speeds people along.

Clusters are most commonly found in volatile-rich environments like the Trojans and the ring systems of the gas giants (particularly Saturn). Clusters are rare in the Jovian system because shielding a cluster of individual modules rather than one large station from Jupiter's intense magnetosphere is hideously inefficient.

Cluster colonies can have anywhere from 50 to 250,000 inhabitants.

Cole Bubbles

Cole bubbles (or "bubbleworlds") are found mostly in the main asteroid belt, where the large nickel-iron asteroids used to construct them are abundant. Bubbleworlds are less common in the Trojans and Greeks, where crusty ice asteroids predominate. A Cole bubble is similar in many respects to an O'Neill cylinder, but there are no longitudinal windows. Sunlight instead enters through axial mirror arrays. The bubbleworld is also constructed very differently, using a large solar array to heat a pocket of water inside of a metal asteroid so that the metal expands. Rotating the asteroid causes the malleable material to form a cylinder, which is then capped off and the water drained. The inside can then be pressurized, built out, and planted. Cole bubbles can also be spun for gravity, according to the whims of the inhabitants, though the gravity lowers as you near the poles of the bubble, with zero gravity at the axis of rotation.

Cole bubbles are among the largest structures transhumanity has created in space. The largest Cole habitat, Extropia, has a population of 10 million.

Hamilton Cylinders

Hamilton cylinders are a new technology. There are only three fully operational Hamilton cylinders in the system, but the design shows great promise and is likely to be widely adopted over the coming period. Hamilton cylinders are grown using a complex genomic algorithm that orchestrates nanoscale building machines. These nanobots build the habitat slowly over time, a process more like growing than construction.

Similar to O'Neill cylinders and Cole bubbles, a Hamilton cylinder is a cylindrical habitat rotating on its long axis to provide gravity. Two of the known Hamilton cylinders orbit Saturn in positions skimming the rings near the Cassini division. From this position, they can graze on silicates and volatiles using harvester ships.

None of the currently-operating Hamilton cylinders have grown to full size yet, but estimates say they could each house up to 3 million people.

O'Neill Cylinders

Found mostly in the orbits of Earth, Luna, Venus, and Mars, O'Neill cylinders were among transhumanity's first large space habitat designs. O'Neill cylinders are no longer built, having been replaced by more efficient designs, but are still home to tens of millions of transhumans. O'Neill cylinders were constructed from metals mined on Luna or Mercury, Lunar volatiles (including Lunar polar ice), and asteroidal silicates.

A typical O'Neill habitat is thirty-five kilometers long, eight kilometers in diameter, and rotates around its long axis at a speed sufficient for centrifugal force to create one Earth gravity on the inner wall of the cylinder. Smaller cylinders exist, though these usually feature lower gravity (typically Mars standard). Cylinders are sometimes joined together, end-to-end, for extra long habitats. A spaceport is situated at one end on the rotational axis of the cylinder (where there is no gravity). Arrivals by space use a lift or microlight launch pad to get down to the habitat floor.

The inside of an O'Neill cylinder has six alternating strips of ground and window running from one cap of the cylinder to the other. One narrow end of an O'Neill cylinder points toward the sun. The opposite end is the mooring point for three immense reflectors angled to reflect sunlight into the windows. Smart materials coating the windows and reflectors prevent fluctuations in solar activity from delivering too much heat. The air inside the cylinder and its metal superstructure provide radiation shielding.

The land in most O'Neill cylinders is one-third agricultural (a combination of food vats and high-yield photosynthetic crops), one-third park land, and one-third mixed use residential and business. O'Neill habitats have a day and night cycle regulated by the position of the external mirrors. The business and residential sections of the cylinder usually alternate with the park land over two of the strips of land; cropland usually takes up the third. Bridges cross the windows every kilometer or so, linking the land strips. The interior climate, the architectural style of the structures, and the types of vegetation and fauna present vary with the tastes of the habitats' designers.

Depending upon size, O'Neill cylinders can house from 25,000 to 2 million people.

Tin Cans

Antique research stations and survivalist prospector outposts often fit this description. Tin can habitats are only a few notches up from the early 21st-century International Space Station. Tin cans usually consist of one or more modules connected to solar panels and other utilities by an open truss. Deluxe models feature actual floatways or crawlways between modules, while barebones setups require a vacsuit or vac-resistant morph to go from room to room. Food growing capacity is severely limited and there may be no farcasters, but fabricators are available, as well as mooring for shuttles and perhaps prospecting craft.

Tin cans rarely house more than 50 people.

Toruses

Interchangeably called toruses, toroids, donuts, and wheels, these circular space habitats were a cheap alternative to the O'Neill cylinder used for smaller installations. Like O'Neill cylinders, toruses are seldom constructed anymore, but many are still encountered in the inner system, particularly in Earth and Lunar orbit.

A toroidal habitat looks like a donut 1 kilometer in diameter, rotating on great spokes. There is a zero-g spaceport at the wheel's hub. Visitors take a lift down one of the spokes to the level of the donut, where rotation creates one Earth gravity.

The plan of toroidal habitats varies greatly, as many were designed for specific scientific or military purposes and only later taken over as habitats by entrepreneurs or squatters. Many have a succession of decks in the donut. Most of those designed for long-term self-sufficient habitation have smart material-covered glass windows for growing plants along much of the inside surface of the torus. Toroidal habitats equipped for farming normally face the sun in a direction perpendicular to their rotational axis, but then use a slow processional wobble of that axis to create a day/night cycle.

Toruses were usually built to accommodate small crews of 500 or fewer people, though some larger ones exist, able to house 50,000. A few rare double-toruses also exist, like two large wheels spinning in opposite directions, joined at the axis.

Immigration and Customs

How characters gain entry to a habitat and what type of screening they're likely to undergo depends upon how they arrive. Some habitats are close to other settlements, while others are physically isolated by the vast, empty distances of interplanetary space.

Habitats in dense planetary systems receive most of their visitors via conventional space travel. Immigration and customs infrastructure is geared toward receiving visitors via their spaceport, and the processing of arrivals is in most ways analogous to a twentieth century airport. Isolated habitats, on the other hand, tend to receive almost all of their visitors via egocast.

Physical Arrivals

Arrivals by spacecraft undergo, at minimum, an ego ID check, scans to detect pathogens, hostile nanobots, explosives, or radiation, and an inspection of their personal effects. Some habitats go farther, including rigorous secondary screenings using scout nanoswarms, scans of all electronic systems for malware, and/or aggressive interrogation of a fork of the subject. Even autonomist enclaves enforce automated scans for anything that might pose a danger to the habitat or any signs of hypercorp saboteur efforts.

Restricted goods vary according to local legalities. Many habitats, particularly those controlled by autonomist or criminal factions, allow personal weaponry as long as its nothing you can use to blow a hole in the structure or indiscriminately kill dozens of people. Others, notably the Jovian Republic and hypercorp stations, disallow lethal weapons of all kinds, except for people who have acquired special permits and authorization (sometimes available by bribing the right people or pulling favors with rep). Nonlethal weapons are generally allowed. Other restricted items may include nanofabricators, nanoswarms, malware and hacker software, drugs and narcoalgorithms, certain types of XP recordings, covert operations tools, and so on. Certain types of morphs may also be restricted, such as reapers, furies, or uplifts.

Certain habitats may insist that visitors—or at least the ones they don't like the looks of—submit to specific forms of monitoring or surveillance for the duration of their stay. This might include taggant nanoswarms, hosting a police AI in your mesh inserts, or even physical tailing by an armed security drone. Other stations will require that their visitors leave a fork as a form of collateral at the door—in case they commit a crime, the fork can be interrogated.

Finally, though rare, some habitats go so far as to charge all visitors an "air tax"—a fee for using the station's publicly available resources while they are present. This is generally only common in isolated habitats with strained resources, and is considered especially obnoxious by most autonomists.

Some syndicates run a good business in smuggling certain goods or even people into habitats. This is generally accomplished through bribed security personnel, but is also sometimes handled as falsified credentials that will allow the subject to breeze past security checks. Such services are typically quite expensive.

For those hoping to gain quiet and unobserved access, there is always the option of taking a spacewalk and trying to break in through an unattended airlock. Such attempts are quite often dangerous and futile, as most habitats have dedicated sensor and security systems to monitor their exterior surface and in particular any access points. Still, it is a possibility for a resourceful team with a skilled hacker, though armed sentry bots are a particular danger.

Electronic Arrivals

Arrivals by egocast are sometimes interviewed by habitat authorities in a simulspace before resleeving. Depending upon the habitat's attitude toward civil rights, this process can be relatively reasonable or quite invasive. A minimal entry inspection includes an ID check, a brief interview with a customs AI, and a review of the specs of the morph into which the arriving ego plans to resleeve. Habitats with draconian immigration measures may use harsh psychosurgery interrogation techniques on suspect infomorphs. Egocast backups have little recourse to avoid this treatment—station authorities can simply file them away in cold storage if they choose—so it is wise to investigate custom procedures before you send yourself over.

Because many people, particularly autonomists and brinkers, don't appreciate this kind of reception, various uploading services have stepped in to provide pre-customs resleeving for characters traveling to habitats with suspect screening methods. For often-exorbitant fees, the traveler egocasts into an extraterritorial substation close to their intended destination, resleeves there, and then travels to their destination by rocket.

Various darkcast services, normally run by established crime syndicates, sometimes offer an alternative method of egocasting in and possibly even resleeving. Darkcast services are quite expensive, however, and the character is at the mercy of the syndicate operators. In rare cases, some political factions or even hypercorps might operate their own darkcast systems, which a character with good networking skills might be able to take advantage of.

Space Travel

In some circumstances, characters will prefer to travel physically through space rather than egocasting. In *Eclipse Phase,* spacecraft are primarily dealt with as a setting environment rather than a vehicle/gear to use. Spacecraft largely pilot themselves via the onboard AI. Though characters can also take over with their Pilot: Spacecraft skill, the situation rarely calls for it.

Local Travel

In densely inhabited planetary systems such as Mars and Saturn, most travel between cities, surface stations, and orbital habitats within 200,000 kilometers is by small hydrogen-fueled (or sometimes methane-fueled) rockets. This form of travel is incredibly cheap, very fast, and avoids the occasional personality glitches that crop up during egocasting. LOTVs (lander and orbital transfer vehicles, p. 348) are commonly used. Spacecraft leaving a planetary body need to be able to generate enough thrust to escape the gravity well (see *Escaping Gravity Wells,* p. 346).

Distance Travel

For distances of 200,000 to 1.5 million kilometers, somewhat larger (and more expensive) fusion- and plasma-drive craft make regular runs. Nuclear electric ion drives were once used on some of these routes, but the poor efficiency of these fission systems and the need for radioactive heavy metal reaction mass means that they are almost never used anymore. Faster antimatter-drive couriers are also commonly used. These ships lack the thrust to escape from the gravity wells of large planets or moons, so they station themselves in orbit and use smaller ships (typically LOTVs) with higher thrust to transport people to and from the planetary surface.

For distances beyond 1.5 million kilometers, almost everyone uses egocasting

Space Travel Basics

Spacecraft use various types of reaction drives (see *Spacecraft Propulsion,* p. 347), meaning that they burn fuel (reaction mass) and direct the heated output in one direction, which pushes the spacecraft in the opposite direction. Travel over any major distance typically involves a period of high-acceleration burn for several hours at the beginning of the flight, where up to half of the reaction mass is spent to drive up the craft's velocity. The ship then coasts for the majority of the flight at that speed, until it approaches its destination, where it flips over and burns an equal amount of reaction mass in the opposite direction to decrease velocity.

Though some craft burn half their reaction mass to get up to the best speed possible, this doesn't leave much room for additional maneuvering or emergencies. Many craft therefore only burn up to a quarter or a third of their fuel in initial accelerations, so they have some to spare in case they need it. A few tricks can be used to save fuel and build speed, such as slingshotting around the gravity wells of larger planets or aerobraking in a planet's upper atmosphere.

Travel times between locations are constantly changing as various bodies move in their orbits around the solar system. Within a cluster or planetary system, travel takes a matter of hours. Within the

inner system, travel can take days or weeks. Travel to, from, or within the outer system can take much longer, and is usually a matter of several months.

Most ships operate at zero-g, except for a few larger craft that are able to spin habitat modules for low gravity. Periods of high-acceleration also produce temporary gravity in a downward direction, towards the burn.

Space is a valuable commodity on board spacecraft, so room is often tight. Sleeping and personal quarters are rarely bigger than large closets, just enough room for a sleeping bag and personal effects. Depending on the size of the craft, there may be a communal recreation area. The crew tend to only be busy at the beginning and end of a trip, when they must deal with acceleration/deceleration and maneuvering around other space traffic. The rest of the trip they spend dealing with repairs or otherwise killing time, often by accessing XP or VR simulations or playing AR games. While spacecraft have their own local mesh network, they are usually too far to interact with the mesh networks of other habitats without significant communications lag, so they must make do with their own archive of entertainment options. Many long-haul ships are crewed by hibernoid morphs, who hunker down for a long nap.

Spaceship Combat

Combat in space tends to take place over long distances using massive beam weapons, railguns, and missiles. It also tends to be nasty, brutish, and short. Significant damage to a vessel can cause atmospheric decompression, killing any biomorph crew who aren't suited up and strapped down.

For the most part, it is recommended that space combat be treated as a plot device, part of the background story that helps create drama and tension, rather than an event that characters actively participate in. This is not to say the characters cannot play a role in the combat, or that their actions will have no effect on the outcome. They may become involved in damage control, negotiate with hostile forces, repel boarders, target weapons with Gunnery skill, stage a mutiny, attempt to hack the networks of approaching vessels, escape out the airlock, hide out while the pirates sack the ship, or similar affairs. It is recommended, however, that gamemasters steer clear of space combat situations that could easily lead to the whole team dying due to a few bad dice rolls.

Nanofabrication

In order to create an object in a nanofabricator (whether a cornucopia machine, fabber, or maker; see p. 327), three things are needed: raw materials, blueprints, and time.

Raw Materials

Raw materials are generally easy to acquire, as most nanofabricators are equipped with disassembler units that will break down just about anything into its constituent molecules. Feedstock may also be purchased (at a cost of Trivial). Many habitats route their recycling and waste products directly into disassemblers.

Blueprints

Most nanofabricators are pre-loaded with blueprints for general purpose items: food, simple clothing, basic tools, etc. Blueprints for other goods may be acquired in several ways:

- They may be purchased online (legally or on the black market).
- They may be found for free online (see below).
- They may be acquired with Rep, following the usual rules for social networking (p. 285).
- They may stolen (usually by hacking a mesh site or a nanofabricator containing such plans).
- They may be self-programmed (see below).

Once the blueprints are acquired, they are simply loaded into the nanofabricator.

Open Source Blueprints

Blueprints for many goods may be found for free online, disseminated by an active open source software movement. The availability of such plans typically depends on the local mesh. In autonomist habitats, a simple Research Test is likely to turn up the open source blueprints you need (applying modifiers for unusual items). In more restricted habitats, open source blueprints may be harder to find, as they will be securely hidden from the prying eyes of the authorities. In this case, the character will need to use their Rep to gain access, bribe a local hacker group, or do something similar.

Note that restricted nanofabricators may not accept open source blueprints (see *Blueprint Restrictions*).

Blueprint Restrictions

Some nanofabricators are equipped with pre-programmed restrictions not to accept blueprints for restricted items (such as weapons) or non-licensed items (such as black market or open source blueprints). These restrictions may be circumvented by hacking the nanofabricator and re-programming it, following normal hacking rules (p. 254).

Programming Blueprints

A dedicated character may simply decide to program their own blueprints, though this is a time-consuming endeavor. To do so, the character must make a Programming: Nanofabrication Test with a timeframe of one week per cost level of the item. For example, a Trivial cost item takes 1 week, a Low cost item takes 2 weeks, a Moderate item 3 weeks, and so on. Academics: Nanotechnology skill or a skill appropriate to the object's design may be used as a complementary skill (p. 173) for this test. A fork or muse may also be assigned to such a programming task.

TIME

Once the raw materials and blueprints are in, most nanofabrication is simply a matter of time. The exact timeframe to create an object varies, but roughly approximates 1 hour per cost category of the item (1 hour for Trivial, 2 for Low, 3 for Moderate, etc.). The gamemaster may feel free to modify this period as appropriate for the object.

THE PROGRAMMING TEST

Nanofabrication is typically handled as a Programming: Nanofabrication Test. In most cases, this can be treated as a Simple Success Test (p. 118), with a failed roll simply indicating that the item has some minor imperfections, or perhaps took longer to make.

In some cases, the gamemaster may call for an actual Success Test, meaning that failure is more of a possibility. This should only be done for items that are exotic, extremely complicated, or for which the blueprints are incomplete or otherwise suspect. This test can also be made if the raw materials are limited.

The character operating the nanofabricator can make this test or it can be left up to the nanofabricator's built-in AI. Most such Such AIs have a Programming: Nanofabrication skill of 30 (see *AIs and Muses,* p. 331).

REPUTATION AND SOCIAL NETWORKS

"Once upon a time, there was a planet so incredibly primitive that its inhabitants still used money. That planet is called 'Mars.'"

—Professor Magnus Ming, Titan Autonomous University

The conflict between market capitalism and other forms of economics is one of transhumanity's last great culture wars, and it's still being fought. Transhumanity's expansion into the solar system created myriad opportunities to experiment with new economic systems. Many failed, but the reputation economies of the outer system have proven both utilitarian and robust in a way that no previous challenger to market capitalism has managed.

The reputation economy, sometimes called the gift economy or open economy, is one in which the material plenty created by nanofabrication and the longevity granted by uploading and backups have removed considerations of supply versus scarcity from the economic equation—destroying classical economics in the process.

The regimented societies of the inner system and the Jovian Junta have used societal controls and careful regulation of the technologies of abundance on their populations, thus keeping to a transitional economy system that is largely an outgrowth of classical economics. No one could get away with doing this in the outer system. In the Trojans and Greeks, much of the belt, free Jupiter, and anywhere outward from Saturn, the reputation economy rules.

How did this happen? For one thing, money is a nuisance when you're an autonomous member of an autonomous collective whose nearest three neighbors (each 100,000 kilometers away) are also autonomous collectives. All of you are almost completely self-sufficient in terms of material resources. You have a fleet of robots that harvest water, volatiles, reactor mass, metals, and silicates. You have a nanofabricator to make all of your small items, a community factory for large ones, and a machine shop where you can build anything else—with help and advice from an AI with the combined knowledge and experience of a top flight engineering team, if you even need it. You grow your own food.

Money is for people who don't know how to take care of themselves. Transhumanity is only a few decades away from being a mature Type I Kardashev civilization, having largely mastered the material resources of its own solar system. A character from the outer system most likely finds the whole concept of money an embarrassment.

However, material abundance hasn't eliminated the value of certain goods and services. A transhuman's lunch might be free, but innovative ideas, new designs, health care, sex, and dirty work don't grow in fabricators. What if you need gene therapy on your morph to grow infrared sensing cells on your face? How about someone to assassinate your renegade beta fork after she set off a hallucinogen grenade at your gallery opening and kidnapped your boyfriend? What if you really need a spanking? You call on your social network. If your network is sufficiently deep and numerous, and your reputation is good enough, someone will help you out.

In the inner system, the reputation economy doesn't replace money for the exchange of goods and services, but it does hold sway over the network of favors and influence. Calling on contacts, getting information, and making sure you're in the best place to see and be seen all involve calling on your social network.

Social Networks

Social networks represent the people you know, and the people they know, and so on. It starts with your friends and family, spreads out to your co-workers, neighbors, and colleagues, and expands all the way out to your acquaintances, from the neo-hominid waitron at your favorite cafe to the sylph you flirt with at the club. In the always-online, fully-meshed universe of *Eclipse Phase,* this goes even further, encompassing all of the people you've linked to via social mesh networks, everyone who watches your blog/lifelog/updates, and everyone you interact with on various mesh forums. Now add in the friend-of-a-friend factor, and everyone has an impressive ability to reach out to people they know, people they sort of know, and people you don't know but who are somehow linked to you in one degree or another.

Of course, social networks are not homogeneous. Among the ever-diversifying ranks of transhumanity, there is a tendency to coalesce around various shared characteristics, whether those be cultural background, personal interests, professional ties, local connections, political affiliations, subcultural obsessions, or simply common interest from being part of the same subspecies clade. The social network of an info-anarchist hacker is likely to bear little resemblance to that of a hypercorp socialite or an isolate brinker. Nevertheless, social networks quite frequently overlap, often in unexpected and interesting ways. Most people can be considered members of several different types of social networks. This overlap is what links disparate groupings of transhumans together.

Networking

Just being connected, of course, doesn't mean you have several thousand idle transhumans at your beck and call. If you hope to gather the latest gossip, get advice from an expert, find someone who can fix your problems, acquire a piece of gray market tech, or spread a meme, you need to know both *who* to talk to in that social network and *how* to go about getting what you need, especially if you hope to keep things quiet and not raise any flags.

This is where your Networking: [Field] skills come in (p. 182). Networking represents your ability to maneuver through this web of personal and impersonal connections to find who and what you need. This could be handled by word-of-mouth, posting the right queries in the right places on the mesh, monitoring the right personal profiles and forums, harnessing the power of the mob with crowdsourcing, or any number of similar creative tactics.

Each field you have in Networking represents a particular network grouping, a common interest that ties people together. Most of these fields are based on factions (Autonomists, Hypercorp, etc.) and tie into a special reputation network (see the Reputation Networks table, p. 287). At the gamemaster's discretion, other groupings of people could be connected through these skills and rep systems. For example, artists and journalists of all stripes can fall under the Networking: Media skill and f-rep, no matter if they are autonomist or hypercorp. Likewise, being a diverse group, brinkers do not universally fall into any of the categories, and are instead spread out between them. If the gamemaster and players agree, other Networking fields and rep networks may be added, representing other spheres of interest, such as AR Games, Sports, Slash Fiction, etc.

The exact uses for which you may exploit your social networks are noted below. While in some cases the defining element is who you know and how good you are at reaching out to them, in others the defining element is how known *you* are. You might be connected to thousands of people, but if you don't have clout, your efforts to make use of these connections is limited. This is where Reputation comes into play.

Reputation

Reputation is a measurement of your social currency. In the gift economies of the outer system, social reputation has effectively replaced money. Unlike credit, however, reputation is far more stable.

Within *Eclipse Phase,* reputation scores are facilitated by online social networks. Almost everyone is a member of one or more of these reputation networks. It is a trivial matter to ping the current Rep score and history of someone you are dealing with—your muse often does this automatically, marking an entoptic Rep score badge on anyone with whom you interact, updated in real time, so you will see if they suddenly take a hit or become popular. The 7 most common networks are noted on the Reputation Networks

table. Gamemasters and characters may decide to add others appropriate to their game.

You purchase a Rep score in one or more of these networks during character creation. Rep scores are rated between 0 and 99, just like skills. These ratings determine your ability to acquire goods, services, and information and favors, as noted below. These scores may be raised or lowered during game play according to your character's actions.

Using Networks and Rep

In game terms, you take advantage of your connections and personal cred every time you need a *favor.* A favor is broadly defined as anything you try to get via your social networks, whether that be information, aid, goods, and so on. Different types of favors are described under *Favors,* p. 289.

The Networking Test

To pursue a favor, you start by looking around. This calls for a Networking Test to determine if you can find the person, people, or information you need. This represents talking to people you know, spreading the word to people they know, posting queries to the social network at large, digging through various profiles, chat rooms, etc. to find someone who might help you out, and so on.

Networking Tests are subject to modifiers for the level of the favor (see below), the amount the character is trying to keep quiet about the request (see below), and any other factors noted on the Networking Modifiers table or determined by the gamemaster.

Networking Tests are Task Actions—it takes time to call in favors or track down information. The timeframe depends on the level of favor, as noted on the Favors table, p. 289.

Favor Levels and Modifiers

Rep scores are broken down into five levels, reflecting your standing within that community. Every 20 points of Rep equals one level. See the Reputation Levels table for a breakdown.

Likewise, favors are also broken down into five levels, rated from Trivial to Scarce (see *Favors,* p. 289, for specific examples). The standard level of favor you can expect to get from a social network is based on your level of Rep in that network. If you want to pursue a favor above your level, you can do so, but you will suffer a negative modifier on your Networking Test. This reflects that someone with low standing has a hard time getting people to go out of their way for them. Similarly, if you pursue a favor below your level, you receive a positive modifier to your Networking Test, reflecting that your prestige makes it easier to acquire minor things that you need. For each level the favor falls under or above your Rep score level, apply a + or –10 modifier, as appropriate.

EXAMPLE

Jaqui's on a scum barge and she needs to get a hold of a weapon fast. She has a specific weapon in mind, but it's pricey—its cost is High. She decides her best approach is to try talking to the scum on the ship to try and find someone who can lend or sell her such a weapon, using her @-rep and her Networking: Autonomist skill of 50. Acquiring a High cost item counts as a Level 4 High favor (see **Acquire/Unloads Goods,** p. 289). Jaqui's @-rep is 53, which is only Level 3. Since the favor is one level higher than her rep level, she suffers a –10 modifier on her Networking Test. Jaqui must roll a 40 or less (50 – 10) to find a weapon supplier.

Reputation Networks

Network Name	Rep Name	Networking Field	Factions and Others
The Circle-A List	@-Rep	Autonomists	anarchists, Barsoomians, Extropians, Titanian, and scum
CivicNet	c-Rep	Hypercorps	hypercorps, Jovians, Lunars, Martians, Venusians
EcoWave	e-Rep	Ecologists	nano-ecologists, preservationists, and reclaimers
Fame	f-Rep	Media	socialites (also artists, glitterati, and media)
Guanxi	g-Rep	Criminals	criminals
The Eye	i-Rep	Firewall	Firewall
Research Network Associates	r-Rep	Scientists	argonauts (also technologists, researchers, and scientists)

Networking Modifiers

Situation	Modifier
Favor level exceeds Rep level	–10 per level
Rep level exceeds favor level	+10 per level
Keeping quiet	–Variable (see p. 288)
Burning Rep	+Rep amount burned
Paying extra	+10 per level

Reputation Levels

Reputation Score	Reputation Level
0–19	Level 1
20–39	Level 2
40–59	Level 3
60–79	Level 4
80–99	Level 5

PAYING/EXCHANGING FOR FAVORS

Favors don't necessarily come for free. Depending on what you're after, you may also need to exchange for it.

In the capitalist and transitional economies of the inner system and Jovian Junta, you may need to buy the goods or services you are after with credit. Even information might be paid for by bribing the right person. Once spent, that credit is gone until you earn more.

In the anarchistic reputation economies of the outer system, you can get what you need for free. In this case, you are acquiring goods and services based on the strength of your reputation.

EXAMPLE

Jaqui rolls a 39—she makes it! After posting some public notices on the scum social network (she's not worried about legalities or hiding what she's doing—this is a scum ship after all), she gets directed to a weapons dealer with a good rep. While a scum arms merchant normally sells their wares for credit, Jaqui is scum herself, so she's able to use her scum community standing and get the weapon for free. This uses up a High favor, however.

THE LIMITS OF REPUTATION

Even in the gift economies, reputation only gets you so far. There are limits to how often you can ask for help before you start coming across as pushy or a leech. In game terms, this is expressed as a *refresh rate*—the amount of time you must wait to pass before you can seek out a favor of that level again without seeming demanding. Refresh rates are noted on the Favors table (p. 289).

If you need to seek another favor before the refresh rate has expired, you have two choices. You can expend a higher level favor instead, keeping in mind that higher level favors refresh more slowly. Alternatively, you can burn reputation (see below).

EXAMPLE

Now that Jaqui's got her weapon, she needs another favor—she needs to find someone who doesn't want to be found. The person she's after is scum, so once again she turns to the scum for help. The gamemaster decides that this is another Level 4 favor (see **Acquire Information,** p. 291). Once again, with her Networking: Autonomist of 50 and Level 3 rep, she must roll a 40 or less. She gets a 21, and finds someone who has the information she needs.

Jaqui now has a choice. To get this information, she either needs to pay the person in credits (a High cost) or she she needs to expend another Level 4 favor. She's low on money, so she decides to use her rep again. Level 4 favors only refresh once a month, though, and Jaqui used her last one just a few hours ago. Her only choice is to expend a higher favor, so she expends a Level 5 to get the intel she needs.

BURNING REPUTATION

In some cases, getting what you need may be more important than not stepping on people's tentacles. In situations of dire need, you can *burn* some of your Rep score to get the job done, meaning that you exchange a loss of Rep for a shot at a favor. This reflects that you are pushing the bounds of how far people are willing to go for you. While you still might get what you need, your online reputation rating takes a hit as people flag you for being needy.

There are two reasons to burn Rep score. The first is to get a bonus on your Networking Test. This indicates that you are pulling strings and calling in markers to get the favor you're after. This is particularly useful when you are trying to obtain a favor that's of a level higher than your Rep, but abuse it too often and you will soon have no social standing at all. Every point of Rep you burn gives you an equivalent positive modifier on the Networking Test, up to a maximum of +30.

The second option is to burn Rep to seek a favor before it has refreshed. This reflects that you are asking for too much in a short period. The amount of Rep you must burn in this case depends on the level of favor you are seeking, as noted on the Favors table (p. 289).

EXAMPLE

Jaqui's got her weapon and her target's whereabouts, but she needs one more thing: a hacker. She needs someone who can open some doors and defeat some security systems so she can get to the target she's after in his hideout. Since she's on a scum barge, Jaqui feels that, once again, her best option is to work her scum contacts. The gamemaster determines that this will be another Level 4 favor. Rolling against a target number of 40 again, she gets a 13—her luck is holding.

She finds a hacker, but now she needs to make an exchange for their services. Once again she decides not to spend credit and use her @-rep instead. Jaqui's already used up both her Level 4 and Level 5 @-rep favors, though, so she has no choice but to burn reputation. A Level 4 favor costs 10 Rep to burn. Jaqui spends it, sending her @-rep from 53 to 43—she's been pulling in a lot of big favors in a short amount of time, and her friends and acquaintances are expressing their annoyance by lowering her social standing.

KEEPING QUIET

The problem with using social networks for favors is that you end up letting lots of other people know what you're up to. When you're involved in a clandestine operation, that could be exactly what you *don't* want. The only way to diminish this is to take your requests to trusted friends and ask them to keep quiet, but this diminishes the pool of people at your disposal.

In game terms, you can try to keep word of what you're doing quiet, but this makes it harder to get what you need. For every negative modifier you apply to your Networking Test, the same negative modifier applies to anyone making a Networking Test to find out what you're up to.

EXAMPLE

Revisiting one of our previous examples, we go back to the point where Jaqui was trying to ascertain someone's hideout location. Because the person she's after is scum, they're on a scum ship, and Jaqui is using her Networking: Autonomist skill to find them, there's a good chance that if she starts asking around to everyone, word might trickle back to the person she's after. She doesn't want them to know she's on their tail, though, so she decides to make her inquiries more discreet. She applies a –20 modifier to her Networking Test, which lowers her target number from 40 to 20. As noted before, she rolls a 21, which is a failure. She spends a Moxie point to flip the roll, though, making it a 12—a success.

Because Jaqui took that –20 hit, representing the fact that she was keeping her research quiet, her target will suffer a –20 modifier when he makes his Networking Test to see if he gets word that someone is asking around about his hideout.

FAVORS

Creative players can undoubtedly come up with many uses for their social networks, but a few of the more common are detailed here.

Gamemasters should use their discretion as to how much roleplaying interaction and Networking Tests are included in using a social network. For normal goods, straightforward information queries, or small favors, neither dice rolling nor roleplaying may be required. For major requests, interactions with contacts, and mission assistance, dice rolls and/or roleplaying interaction with contacts from the social network should usually occur. Gamemasters may wish to keep track of the NPC contacts in each character's social networks and make them recurring characters.

FAVORS

FAVOR LEVEL	TIMEFRAME	BURNING REP COST	REFRESH RATE
1 (Trivial)	1 minute	0	1 hour
2 (Low)	30 minutes	1	1 day
3 (Moderate)	1 hour	5	1 week
4 (High)	1 day	10	1 month
5 (Scarce)	3 days	20	3 months

ACQUIRE/UNLOAD GOODS

Social networks are a good way to find items that you can't buy legally or make at home. Depending on who you're getting the goods from, this will cost you credit or require an appropriate Rep score. This favor can also be used to sell or give away such items, making some money or perhaps even some Rep in the process.

ACQUIRE/UNLOAD GOODS

LEVEL	SERVICE
1	Acquire/unload item with an expense of Trivial.
2	Acquire/unload item with an expense of Low.
3	Acquire/unload item with an expense of Moderate.
4	Acquire/unload item with an expense of High.
5	Acquire/unload item with an expense of Expensive

ACQUIRE SERVICES

When you lack the skills or education you need, or you just need another set of arms, you can call out to your social network to find someone to help you out. If you are looking for someone with a particular skill, the result of your successful Networking Test roll is the skill rating of the person you find. The higher your Networking skill, the better able you are to find highly-skilled professionals.

EXAMPLE

Cole needs to find an astrobiologist who can help him identify an alien critter. He rolls his Networking: Scientist skill of 50 and gets a 43—a success. He tracks down someone with Academics: Astrobiology skill of 43 (his roll) who can help him out. When the astrobiologist looks the critter over, the gamemaster makes a roll for the NPC using that skill of 43.

ACQUIRE INFORMATION

When you can't find the information online or you don't have the time or capability to look, you can turn to people in your social network and tap their accumulated knowledge base.

REPUTATION AND IDENTITY

It is important to note that reputation is closely tied to identity. If you are undercover and using a fake ID, you can't really call on your Rep score without giving yourself away. As a result, many people using false identities end up building up a separate set of Rep scores for their alter ego.

Note that since many social network interactions take place online, it is possible for someone to secretly make use of their real identity while masquerading as someone else, as long as they're careful about it. If anyone happens to be spying on their activity via the mesh, they stand a chance of being found out.

ACQUIRE SERVICES

LEVEL	SERVICE
1	**Trivial favor:** Get someone to perform services for 15 minutes. Moving a chair. Browbeating someone. Catching a ride. Researching someone on line. Borrow 50 credits. Other Trivial cost services.
2	**Minor favor:** Get someone to perform services for an hour. Moving to a new cubicle. Roughing someone up. Loaning a vehicle. Providing an alibi. Healing vat rental. Minor hacking assistance. Basic legal or police assistance. Borrow 250 credits. Other Low cost services.
3	**Moderate favor:** Get someone to perform services for a day. Moving to a habitat in the same cluster. Serious beatings. Lookouts. Short-distance egocast. Short shuttle trip (under 50,000 km). Minor psychosurgery. Uploading. Reservations at the best restaurant ever. Major legal representation or police favors. Borrow 1,000 credits. Other Moderate cost services.
4	**Major favor:** Get someone to perform services for a month. Moving a body. Homicide. Getaway shuttle piloting. Industrial sabotage. Large-volume shipping contract on bulk freighter. Medium-distance egocast. Mid-range shuttle trip (50,000–150,000 km). Moderate psychosurgery. Resleeving. Get out of jail free. Borrow 5,000 credits. Other High cost services.
5	**Partnership:** Get someone to perform services for a year. Moving a dismembered body. Mass murder. Major embezzlement. Acts of terrorism. Relocate a mid-size asteroid. Long-distance egocast. Long-range shuttle trip (150,000 km or more). Borrow 20,000 credits. Other Expensive cost services.

ACQUIRE INFORMATION

LEVEL	SERVICE
1	**Common Information:** Where to eat. What biz a certain hypercorp is in. Who's in charge.
2	**Public Information:** Make gray market connections. Where the "bad neighborhood" is. Obscure public database info. Who's the local crime syndicate. Public hypercorp news.
3	**Private Information:** Make black market connections. Where an unlisted hypercorp facility is. Who's a cop. Who's a crime syndicate member. Where someone hangs out. Internal hypercorp news. Who's sleeping with whom.
4	**Secret Information:** Make exotic black market connections. Where a secret corp facility is. Where someone's hiding out. Secret hypercorp projects. Who's cheating on whom.
5	**Top Secret Intel:** Where a top secret black-budget lab is. Illegal hypercorp projects. Scandalous data. Blackmail material.

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

SECURITY

Firewall sentinels make a regular habit of being in places where they are not supposed to be and bringing things with them that others would prefer they not have. Security has a different character post-Fall than in the 21st century. Due to hyper-abundance, physical security measures such as locks, doors, and walls are less important than in the past to common citizens. People don't worry about theft as much as in the past because most items can be replaced by a nanofabricator. The items that do tend to engender this type of security are irreplaceable or rare items such as artifacts of Earth.

Post-Fall physical security focuses heavily on surveillance—identifying intruders and tracking them so that they can be interdicted by transhuman or robotic defenders. Surveillance is more effective than in pre-Fall societies because AIs with near-human faculties of pattern recognition and indentured infomorphs can be employed to monitor surveillance data.

The emphasis on surveillance results from the ease with which most material barriers can be breached by high-powered hand weaponry and devices like the covert operations tool (p. 315). However, physical barriers designed to actively resist intruders by healing themselves or attacking tools used to damage them are used at key points in secure installations. Such barriers are typically very expensive and so are used sparingly.

Transhuman, animal, and infolife defenders are cornerstones of most security systems. The availability of a huge pool of infomorph labor to guard facilities means that someone is always on duty, whether as part of the surveillance system or in a robotic shell.

ACCESS CONTROL

The first step in any security system is simply to enact measure to keep unwanted people out. At a basic level this involves walls, locks, fencing, defensive landscaping, security lighting, and entoptic warnings.

Barriers of different sorts present an obstacle that must be cut through or blown apart in order to defeat. Barriers are treated just like other inanimate objects for purposes of attack sand damage; see *Objects and Structures,* p. 202.

BUG ZAPPERS

Bug zappers create minute EMP pulses that are harmless to most electronic equipment and implants but wreak havoc on nanobot swarms, microbugs, and specks. Bug zappers are generally applied to surfaces, and as such they only destroy floating/flying swarms or specks if they land. In areas with heavily shielded electronics, they may be installed to destroy targets in an entire room. A zapper instantly destroys all free-crawling or flying nanobots and specks in a room when it goes off, but transhuman flesh is sufficient to prevent it destroying medichines or other implanted nanobots. Infiltrators trying to gather data in areas protected by zappers generally resort to going around them or trying to plant macroscale devices.

ELECTRONIC LOCKS

Electronic locks (e-locks) are commonly used as a means of maintaining privacy. They are easy to defeat, however, and so are rarely used in very secure areas. E-locks have several advantages over old-fashioned mechanical locks. Different users can have different authentication methods, they can log all events (entry, exit, failed authentications), and they can be connected (usually hardwired but sometimes encrypted wireless) to security systems for remote control and alarm triggering.

E-locks use one of several authentication systems, or sometimes a combination of systems:

Biometric: The lock scans one or more of the user's biometric prints. Common biometrics include DNA, facial thermographic, fingerprint, gait, hand veins, iris, keystroke, odor, palm, retinal, and voice prints.

Keypad: This is an alphanumeric keypad upon which users enter a specific code. Different users can have different codes.

Token: Authorized users must carry some sort of physical token that interacts with the lock to open the door, such as a keycard, electronic key, etc.

Wireless Code: Users must emit a cryptographic code via near-proximity wireless signal.

Though various technologies exist to defeat each of these systems, there are three methods that work against almost all e-locks. The first is use of a covert operations tool (p. 315), which infiltrates a lock with nanobots that swarm in and engage the electronic mechanism. The drawback to using a COT is that its use is immediately logged by the e-lock and an alarm is triggered. Some e-locks are equipped with guardian nanoswarms (p. 329) to defeat COTs, but the COT nanobots usually manage to open the lock before the guardians eat them.

The second method is to hack the e-lock. Most e-locks are slaved to a security system, so this often means intruding into the security system and then opening the lock from within. This can be difficult, however, especially if the security system is wirelessly isolated or hardwired. The advantage is that, if done right, all evidence of the lock being opened can be erased.

The third method is to physically open and manipulate the lock. This requires first opening the lock's case and then triggering the lock mechanism to open the door. Both of these are handled as separate Hardware: Electronics Task Actions with a timeframe of 1 minute each. In addition, most e-locks have anti-tamper circuits that will set off an alarm if the attacker does not achieve an Excellent Success when opening the case.

Lockbots

The 21st century saw a move from mechanical locks to e-locks and other largely electronic locking mechanisms. These devices worked well for about 50 years, until electronic infiltration capabilities rendered them largely useless. The more recent development of lockbots has more in common with their early mechanical forebears. They are unique, expensive, artisan items.

A typical lockbot is heavily integrated with the portal and barrier it protects. Lockbots usually include an AI or indentured infomorph, self-healing materials (treat as a self-healing barrier), and a swarm of guardian nanobots (p. 329). A lockbot monitors its surroundings and has visual recognition software that knows what its users and its keys look like (Perception skill 40). Picking a lockbot is thus incredibly difficult, because it will shut its orifice and not accept a key that doesn't look right or that comes from an unrecognized user. Unfamiliar nanobots trying to enter the orifice are targeted and destroyed by the guardian nanobots. Finally, external tools used to harm the portal or the lock will be attacked by fractal appendages extruded from the portal surface or the lock itself. These appendages have a range of 1 meter, attack with skill of 40, and inflict 1d10 +2 DV.

Lockbots are generally immune to being hacked because, for security, they aren't connected to the mesh. If attacked, however, lockbots are programmed to send out an alarm signal via the mesh.

There are several ways to defeat a lockbot. One is to get a copy or image of the key and then forge a copy (using nanofabrication). Another is to attack the lockbot or the portal it guards with so much force that the lockbot is unable to repair it (usually using ranged weapons, as anything within a meter of a lockbot may be counterattacked). A third is to somehow image the cavity beyond the lockbot's orifice without the imaging device being destroyed and to then forge the key. All of these are difficult and time-consuming processes.

Some lockbots have the ability to destroy what they're protecting. For example, lockbots are a common protection for the physical interfaces to hardwired networks. If the lockbot is compromised, it may, as a last resort, destroy the interface it was protecting.

Portal Denial System

Installed in corridors or doorways, this is essentially a laser trap device. When an unauthorized person enters the portal denial system's area, it uses lasers to create a grid of plasma channels that are used to deliver a powerful electric current to the target. This system has both lethal and nonlethal settings.

Nonlethal: 1d10 DV + shock (p. 204)

Lethal: 2d10 +5 DV

Self-Healing Barriers

Walls and doors that are able to rapidly repair themselves are sometimes found in high security installations. These barriers are made of materials that automatically expand to "heal" small holes and that are equipped with nanosystems that slowly repair larger amounts of damage. The best of these barriers do no more than slow down the most determined assailants, but in combination with surveillance systems they are a nuisance to invaders and can slow down attempts to flee the scene.

Self-healing barriers heal any single source of damage that is less than 5 points of damage almost immediately, sealing the hole in 1 Action Turn. They will also seal the holes inflicted by a covert ops tool (p. 315) in the same time period. Additionally, these barriers repair larger themselves at the rate of 1d10 damage per 2 hours; once all damage is fixed any wounds are repaired at the rate of 1 per day. Damage of 3 wounds or more may not be repaired by self-healing.

Slippery Walls

On planetary surfaces, high walls and fences are still common as a first line of defense against interlopers. Slippery walls are surface treated with the slip chemical (p. 323), creating a virtually frictionless surface that is exceptionally difficult to climb.

Wireless Inhibitors

Wireless inhibitors are simple paint jobs or construction materials that block radio signals. They are used to create a contained area in which a wireless network may operate freely without worry that the signals will escape out of the area, where they can be intercepted. Wireless inhibitors allow the convenience of using wireless links within a secure area rather than the clumsier hardwired connections. If an intruder manages to gain access inside the area, however, they can intercept, sniff, and hack wireless devices as normal.

Detection and Surveillance

Should security measures fail to keep an intruder out, the second step is to detect an interloper and track their activity.

Nanotagging

A lot of post-Fall security centers not around keeping people out of private spaces, but tracking them after they come and go. What little privacy transhumans have, they cherish. Trespassing is a worse offense than theft in many places.

A room protected by a taggant nanoswarm (p. 329) usually has two or more hives, one each at floor and ceiling level (if in gravity; on the opposite side of the room if in microgravity) that generate and recycle nanobots. The taggants emerge from one hive, float through the room, and then return to the other for recharging and reuse. A feed line usually connects the

hives so that they can share materials and power.

Anyone passing through the room is likely to be dosed with taggant nanobots. Once they lose proximity to the rest of the hive, they hide and periodically broadcast pulsed transmissions meant to give their position to pursuers or investigators. Some may drop off in clusters to form a breadcrumb trail to the interloper.

Sensors

Any of the various sensors described in the *Gear* chapter (p. 294) may be deployed within a facility to monitor and record the passage of personnel, both authorized and not. These sensors are typically slaved to the facility's security network and closely monitored by security AIs, meaning they are vulnerable to hacking and possibly jamming. A few other sensor types deserve mention here:

Chemical Sniffers: The chem sniffer described on p. 311 can also be set to detect the carbon dioxide exhaled in transhuman breaths. This is useful for detecting intruding biomorphs in areas that are abandoned/off-limits.

Electrical Sensors: Electrical sensors can be set in portals to detect a biomorph's electromagnetic field in addition to the electrical fields of synthmorphs.

Heartbeat Sensors: These sensitive sensors detect the vibration caused by transhuman heart beats. They can even be used to detect the heartbeats of passengers inside a large vehicle.

Seismic Sensors: Embedded in flooring, these sensors pick up the pressure and vibration of weight and movement.

Weapon Scanners

Weapon scanners come in several varieties, including those that look for the rare elements used in extremely destructive weapons such as nukes, those that attempt to locate personal weaponry, and those that look for detection taggants.

Rare element scanners are nearly flawless and are ubiquitous in habitat customs and spaceports. The only way to circumvent them is to find an alternate route into the protected area.

Personal weapon scanners can monitor a specific area, such as a small room or doorway. They use a number of sensing systems to detect and identify weapons and other dangerous objects, including chemical sniffers and radar/terahertz/infrared/x-ray/ultrasound imaging. They can detect the following items and substances:

- Metal used in kinetic weapons, seekers, and flechette weapons
- Devices with onboard hives of metallic nanobots (e.g., covert operations tools, spindles)
- Magnetic elements in plasma guns and railguns
- Propellant from firearms ammunition and seekers (–30 to conceal)
- Chemical fuels used in torch spray weapons (–30 to conceal)
- All explosives and grenades by their chemical particulate emissions (–30 to conceal)
- Poisons and bioagents in flechette weapons
- Any weapon or device larger than palm size (using sound waves and shape recognition)

Characters trying to sneak weapons and gear past personal weapon scanners must make a Palming Test (if concealing) or an Infiltration Test (if somehow maneuvering around without notice). This is opposed by a Perception Test from the character or AI manning the sensor system.

Wireless Scanning

Some high-security areas will intentionally monitor for wireless radio signals originating within their area as a way of detecting intruders by their communications emissions. These signals can even be used to track the intruder's location via triangulation and other means (see *Physical Tracking,* p. 251). To bypass wireless detection systems, covert operatives can use line-of-sight laser links (p. 313) for communication or touch-based skinlinks (p. 309).

Active Countermeasures

When all else fails, active countermeasures may be deployed against intruders. While live transhuman guards are sometimes used, robotic sentries are more common, typically AI-driven synthmorphs such as synths, slitheroids, arachnoids, or reapers, with guardian angels (p. 346) providing air support. Occasionally AI-operated gun emplacements—armored turrets that pop out of walls and ceilings—are also applied. In some circumstances, these shells are teleoperated or even jammed by transhuman security.

dditional countermeasures brought to bear will depend on the facility in question. Some sites will engage in active jamming, to deny the intruders any communication. Others will deploy hostile nanoswarms and even chemical weapons.

GEAR

ACQUIRING GEAR

Characters can get gear in all the usual ways: buying, trading, stealing, borrowing, or making. ■ p. 297

Fabricating Gear: With access to a cornucopia machine or another nanofab device, a character may be able to build their own equipment, given the right blueprints and raw materials. ■ p. 297

PERSONAL AUGMENTATIONS

The majority of transhumans are augmented—mentally or physically—with biological, cybernetic, or nanotechnology mods. ■ p. 297

Standard Augmentations: ■ p. 300

Bioware: ■ p. 300

Cyberware: ■ p. 306

Nanoware: ■ p. 308

Cosmetic Mods: ■ p. 309

Robotic Enhancements: ■ p. 310

11

OTHER GEAR

Characters will find many other types of gear useful:

- Armor and Armor Mods ■ pp. 311 and 313
- Communications ■ p. 313
- Covert and Espionage Tech ■ p. 315
- Drugs, Chemicals, and Toxins ■ p. 317
- Everyday Tech ■ p. 325
- Nanotechnology ■ p. 326
- Pets ■ p. 330
- Scavenger Tech ■ p. 330
- Services ■ p. 330
- Software ■ p. 331
- Survival Gear ■ p. 332
- Robots and Vehicles ■ p. 342

WEAPONS

■ p. 334

- Melee: ■ p. 334
- Kinetic: ■ p. 335
- Beam: ■ p. 338
- Seekers: ■ p. 339
- Spray: ■ p. 340
- Grenades: ■ p. 340
- Exotic: ■ pp. 334 & 341
- Accessories: ■ p. 341

The accelerated technological levels of *Eclipse Phase* enable a number of devices for personal enhancement, survival, and other uses.

EQUIPMENT RULES

The following rules apply to all technological items in *Eclipse Phase*.

ACQUIRING GEAR

During character creation, players purchase gear for their characters using the credits they have during the character creation process. Once play begins, however, characters must obtain any equipment they need the usual way: by buying, borrowing, making, or stealing it.

In the inner system, hypercorp, and Jovian Republic settlements—and other places where capitalism still reigns—gear acquisition is simply a matter of finding a seller and buying it. Each item has a listed cost, from Trivial to Expensive, as noted on the Gear Costs table. Due to local availability of resources, supply and demand, and legalities, these listed costs are meant to be approximations. When no other factors apply, the listed Average Cost for that category can be used. Otherwise the gamemaster should modify the item's worth as they see fit, according to local economic factors, while still keeping it within that cost category range. The Cost Modifiers table lists out some suggested changes to an item's cost, but these are simply recommendations, and can be ignored or followed as the gamemaster deems fit. The exact local conditions are largely up to the gamemaster to determine, as best fits their game.

In some circumstances, characters may attempt to haggle over gear prices. This is best handled as roleplaying, but the gamemaster may also call for an Opposed Persuasion Test (or possibly an Intimidation Test). The character who wins may increase or reduce the price by 10% per 10 points of MoS.

In the outer system, anarchist, Titanian, scum, and other habitats that use the reputation economy, characters must rely on their rep scores to acquire the goods and services they need. The mechanics for this are covered under *Reputation and Social Networks*, p. 285.

Characters are of course free to get their hands on equipment by any other means they devise—con schemes, borrowing from friends, and outright theft, with all of the appropriate tests and consequences. In some cases, acquiring gear may be an adventure unto itself.

FABRICATING GEAR

Thanks to nanofabrication technology, characters may also create their own equipment using cornucopia machines and similar nanofab devices (p. 327). The character must have the appropriate blueprints to do so, whether they come with the fabber, are bought legitimately or on the black market, acquired with rep, or found online. Characters may also code their own blueprint desires, using the Programming: Nanofabrication skill.

GEAR MODIFIERS

In the technological future, gear is a necessity. In many cases, use of equipment provides no bonuses, it simply allows a character to perform a task they would otherwise be unable to do. For example, it is impossible to pick a mechanical lock without lockpick or some sort of tool.

In other cases, however, gear provides a bonus to the task at hand. Climbing a wall may be possible without tools, but if you happen to have gecko gloves or other climbing gear, it's going to be a lot easier. The specific modifier applied is usually noted in the gear item's description, typically ranging from +10 to +30.

GEAR QUALITY

In both of the situations above, it is possible to have items that are of either exceptional or inferior quality, with corresponding positive or negative modifiers. The gear may be well-crafted, state-of-the-art, cutting-edge experimental, or simply top-of-the-line, applying an additional +10 to +30. Or it may be outdated, shoddy, or in disrepair, inflicting a –10 to –30 modifier (in some cases canceling out the basic gear bonus).

GEAR COSTS

CATEGORY	RANGE (IN CREDITS)	AVERAGE (IN CREDITS)
Trivial	1–99	50
Low	100–499	250
Moderate	500–1,499	1,000
High	1,500–9,999	5,000
Expensive	10,000+	20,000

COST MODIFIERS

ECONOMIC FACTOR	SUGGESTED COST MODIFIER
Item Stolen	–50%
Item Used	–25%
Item Restricted	+25%
Item Illegal	+50%
Item Scarce	+25%
Item Extremely Rare	+50%
Item Common	–25%

SYNOPSIS
WELCOME TO FIREWALL
A TIME OF ECLIPSE
GAME MECHANICS
CHARACTER CREATION
SKILLS
ACTION AND COMBAT
MIND HACKS
THE MESH
ACCELERATED FUTURE
GEAR
RUNNING THE GAME
REFERENCE

Gear Sizes

On occasion, you'll need to know how small or large a certain piece of equipment is. Though this is largely something the gamemaster can wing on the fly using common sense, we've listed sizes for many gear items that are unusual or so futuristic that the average player may not have a feel for what dimensions the tech likely is. These size categories are listed on the Gear Sizes table (p. 297). These sizes should be considered approximations, as depending on the manufacturer and process, some items may be smaller or larger than similar items. It is also important to keep in mind that as technology advances, the size and components of various equipment items shrink, so when in doubt, go with smaller.

Mass and Encumbrance

A character who is carrying too much gear should be slowed down, suffering negative modifiers both to their movement rates and their skill tests. Rather than micromanaging the weights of individual pieces of equipment, however, this matter is largely left to the gamemaster's discretion, using common sense. If a character loads up beyond reason, apply modifiers as seem appropriate. The gamemaster should, however, keep in mind that many of the manufacturing materials used in *Eclipse Phase* allow for items that are much lighter than current standards without any loss of durability or function (see *Future Materials*, p. 298). Likewise, characters in low or microgravity environments can carry much larger loads.

Concealing Gear

Characters may attempt to conceal items on their person, hoping at least to hide them from casual notice if not an intensive search. To determine how effectively the character conceals the equipment, make a Palming Test and note the MoS (the gamemaster may wish to roll this secretly). Whenever another character has a chance to notice the concealed item, they must succeed in a Perception Test and achieve a higher MoS than was scored on the Palming Test. The gamemaster should apply modifiers to both tests as appropriate. For example, concealing a large item like a sword would be difficult (–30), whereas wearing concealing clothing like a longcoat or multi-pocketed jumpsuit would help (+20). Likewise, a character who is not actively looking is less likely to notice the hidden gear (–30), whereas someone who conducts a physical search (+30) or who has enhanced vision to pierce protective layers will fare better.

GEAR SIZES

SIZE CATEGORY	GENERAL DIMENSIONS AND NOTES
Nano	So small that the item cannot be seen without the aid of a microscope or nanoscopic vision (p. 311), and may not be manipulated without fractal digits (p. 311) or similar tools.
Micro	Anything ranging from the size of a barely visible small dot to an average insect.
Mini	Mini items may be concealed within someone's palm or small pockets.
Small	Small items may be held in one hand and concealed in normal pockets.
Medium	Medium size items are cumbersome to hold with one hand, ranging from the size of a 2-liter bottle to the size of a medium dog. They do not fit in pockets, but they may be concealed by larger coverings.
Large	Roughly human-sized.
Huge	Vehicles and other more massive objects.

Design and Fashion

Many objects in *Eclipse Phase* closely resemble their early 21st century equivalents—a bottle of soda is still a transparent container holding a brightly colored liquid, clothing is obviously something you wear, and a knife still consists of a blade and a handle. The materials, processes, and mindsets that go into making them, however, are quite different. To start, very few items look have a uniform, mass-produced look, even if they were. The procedures of minifacturing and nanofabrication allow every individual item to be manufactured with a unique (or at least different) look. In areas with anarchist/reputation economies, in fact, where personal possessions have very little intrinsic value, expression and creativity are favored and so many items are artistically personalized (and actual hand-crafted items are rare and prized). Likewise, almost all equipment is designed with ergonomics and ease-of-use prioritized, so gear with soft curves, pleasing colors, and form-fitting shapes are common. Many items of personal technology, such as flashlights or small tools, are made in the form of ovoids that fit comfortably in the user's hand or in similar forms that can be easily worn or attached to clothing. To someone from the 20th century, many common devices look like oddly colored rocks or decorative pieces of plastic or ceramic (in fact, many such items are referred to as "blobjects" by older transhumans).

The materials used to create everyday items are also advanced, ranging from aerogel and graphene to smart materials (p. 298) and exotic metamaterials with unusual physical properties. In practice, this means that most items are light, durable (with both tensile strength and/or flexibility, as needed), waterproof, dirt-repellent, and self-cleaning. Most gear is also designed with zero-G or microgravity functionality in mind, and can easily be clipped, tethered, or stuck to a surface with grip pads.

Almost all gear available in *Eclipse Phase* is also available in forms that are wearable/usable by uplifted animals and non-humanoid morphs, such as novacrabs, slitheroids, and so on. Even if such customized gear is not immediately available, it is

FUTURE MATERIALS

Many materials are available and commonly used in *Eclipse Phase* that are rare, theorized, or unheard-of today. The following entries note some of the more interesting.

AEROGEL

Low-density, solid-state "Frozen smoke" is made by carefully foaming various materials, typically glasses or ceramics, to an ultra-low density state. Aerogel is semi-transparent and light-weight, feels like styrofoam, but acts as an incredible insulator against heat and cold. It is commonly used in habitats.

DIAMOND

Artificial diamond is lightweight and super-strong, has an extremely high melting point, and has near-perfect thermal conductivity. This makes it an ideal substance for hardening coated surfaces (armor) and creating super-tough diamond machinery.

FULLERENES/FULLERITES

Fullerenes are molecular carbon structures (known as buckyballs, carbon nanotubes, and graphene) that are extremely strong (vastly stronger by weight than steel), heat-resistant, and can be either insulative or superconductive. This makes them useful in equipment as diverse as armor, electronics, sensor systems, or the cables of space elevators.

METALLIC FOAM

Metal foam is created by adding foaming agents to liquid metals, resulting in extremely lightweight metallic structures—light enough to float on water. Ideal for habitat construction and floating cities.

METALLIC GLASS

Metallic glass are metals highly alloyed to possess a disordered (rather than crystalline) atomic structure with unique combinations of stiffness and strength, making it a good wear surface and alternative to ceramics in armor. It is also useful for its unusual (for a metal) electrical resistance properties.

METAMATERIALS

Metamaterials have unusual physical properties (usually electromagnetic) due to their structure, such as having a negative refractive index. Metamaterials are used to create invisibility cloaks (p. 316), superlenses, phased array optics, and impressive 2-D holograms.

REFRACTORY METALS

These metallic alloys have extremely high melting points, making them ideal for extremely hot engine systems, atmospheric entry vehicles, and hypersonic craft.

TRANSPARENT ALUMINA

In transparent form, this ceramic is often known as sapphire. Transparent alumina is harder than steel and zero-g casting techniques allow for intriguing transparent construction designs, so long as its poor tensile strength is respected. ■

usually not difficult to nanofabricate. Smart materials (p. 298) also make interoperability between different morphs easy.

INTERFACE

It is not uncommon for everyday devices to have no visible controls as they are designed to be operated via radio broadcasts from the user's ecto or mesh inserts. Any items crafted for use in emergency, combat, survival, or exploration situations, however, will feature basic physical controls, just in case. Physical interfaces are typically controlled by touch pads that are nothing more than colored spots on the device's surface, though some may also project a holographic interface display. Most equipment of this sort can can also be voice-activated and controlled.

Almost all devices are loaded with a complete set of help files and tutorials. Most electronics are also mesh-capable and equipped with specialized AIs (see *Meshed Gear*, next page).

SMART MATERIALS

Many common items of technology are made from so-called smart materials. These devices contain—or sometimes consist entirely of—many small nanomachines that can both move and reshape themselves to alter the object's shape, color, and texture. For example, smart clothing can transform from a suit of specialized cold weather clothing suitable for the Martian poles in winter to a fashionable suit in the latest style due to hundreds of thousands of tiny nanomachines in the clothing that shift and move to reshape the garment. Similarly, a tool made of smart materials can switch from a powered screwdriver to a wrench or a hammer, as the nanomachines move around and completely reshape the tool. Smart materials all contain specialized advanced nanomachine generators (p. 328) that keep them in perfect repair as long as they are regularly recharged.

MESHED GEAR

Almost all technology in *Eclipse Phase* is designed to be operated via radio signals from the user's basic implant, although models usable by characters without basic implants are also available. In addition all devices contain a nearly microscopic computer and radio link (known as a "voice") that allows the user to easily locate the object and that reports on the condition of the object or device, how to properly use and care for it, as well as telling the user when it needs to be repaired and how. Most are discrete and highly useful, but cheaply made goods sometimes have overly annoying voices.

This means that almost all devices can be accessed via the mesh or directly if within radio range. This makes them vulnerable to hacking and intrusion attempts (p. 254) as well as radio jamming (p. 262). Many devices are, however, publicly accessible (see *Spimes*, p. 238). Meshed gear may also be tracked through the mesh (p. 251). For privacy and security, these devices are often slaved to other systems (see *Slaving Devices*, p. 248); devices worn/carried by characters are usually made part of the personal area network and slaved to the character's mesh inserts/ecto. For more info on meshed devices, see the *Mesh* chapter, p. 234.

Many devices come equipped with AIs, who are equipped with skillsofts that enable them to operate the device on their own, as according to voiced instructions or commands issued through the net. AIs are described on p. 264 and p. 331.

RADIO AND SENSOR RANGES

In *Eclipse Phase*, almost all devices are equipped with small radios so that they may be meshed. Likewise, many pieces of gear are equipped with sensors such as cameras, microphones, or other detectors. The Radio and Sensor Ranges table notes what range these devices operate at.

POWER

All of the powered devices in *Eclipse Phase* require electricity to function. With rare exceptions, most of them rely on either solar cells or powerful batteries. These batteries are high-density, room-temperature

RADIO AND SENSOR RANGES

SIZE CATEGORY	URBAN RANGE	OPEN RANGE	EXAMPLES
Nano	20 meters	100 meters	Smart Dust, Nanobot/Microbot Swarms
Micro	50 meters	500 meters	Microbugs
Mini	1 kilometer	20 kilometers	Mesh Inserts
Small	5 kilometers	50 kilometers	Ectos, Miniature Radio Farcasters, Portable Sensors
Medium	25 kilometers	250 kilometers	Radio Boosters, Vehicle Sensors
Large	500 kilometers	5,000 kilometers	

superconductors with 25 times the capacity of the best batteries in common use in the early 21st century. Such batteries may also be constructed so that they are flexible, printed on devices, or woven into fabric. They are good for 100–500 hours of use, and will alert the user when they start running low. More powerful radio-isotope nuclear batteries are also available, heavily shielded so they do not emit radiation and good for 3 years or more of use.

In short, power should rarely be an issue in *Eclipse Phase* games, unless it happens to fit the plot. Power failure could also result from a critical failure roll.

PERSONAL AUGMENTATION

Almost all citizens of the solar system, whether human, AI, or uplifted animal, use various forms of biological, cybernetic, or nanotechnological augmentation. The following is a list of the most common types.

Unless otherwise noted, any bonuses from personal augmentations are both compatible and cumulative with bonuses from other enhancements.

STANDARD AUGMENTATIONS

Most morphs produced in the solar system include the following augmentations.

BASIC BIOMODS

Almost universal in biomorphs, many habitats will not allow individuals to visit/immigrate if their biomorph does not possess these biomods in order to preserve public health. Basic biomods consists of a series of genetic tweaks, tailored virii, and bacteria that speed healing, greatly increase disease resistance, and impede aging. A morph with basic biomods heals twice as fast as an early 21st century human, gradually regrows lost body parts, is immune to all normal diseases (from cancer to the flu), and is largely immune to aging. In addition, the morph requires no more than 3-4 hours of sleep per night, is immune to ill-effects from long-term exposure to low or zero gravity, and does not naturally suffer from biological problems like depression, shock reactions after being injured, or allergies. **[Moderate, but included for free in most biomorphs]**

BASIC MESH INSERTS

Mesh inserts are ubiquitous among modern morphs. This network of cybernetic brain implants is essential equipment for anyone who wants to stay connected and make full use of the wireless mesh. The interconnected components of this system include:

- **Cranial Computer:** This computer serves as the hub for the character's personal area network and is home to their muse (p. 264). It has all of the functions of a smartphone and PDA, acting as a media player, meshbrowser, alarm clock/calendar, positioning and map system, address book, advanced calculator, file storage system, search engine, social networking client, messaging program, and note pad. It manages the user's augmented reality input and can run any software the character desires (see *Software,* p. 331). It also processes XP data, allowing the user to experience other people's recorded memories, and also allowing the user to share their own XP sensory input with others in real-time. Facial/image recognition and encryption software (p. 331) are included by default.
- **Radio Transceiver:** This transceiver connects the user to the mesh and other characters/devices within range. It has an effective range of 20 kilometers in deep space or other locations far from radio interference and 1 kilometer in crowded habitats.
- **Medical Sensors:** This array of implants monitors the user's medical status, including heart rate, respiration, blood pressure, temperature, neural activity, and much more. A sophisticated medical diagnostic system interprets the data and warns the user of any concerns or dangers.

Using any of these functions is as easy as thinking. **[Moderate, but included for free in most morphs]**

CORTICAL STACK

A cortical stack is a tiny cyberware data storage unit protected within a synthdiamond case the size of a grape, implanted at the base of the skull where the brain stem and spinal cord connect. It contains a digital backup of that character's ego. Part nanoware, the implant maintains a network of nanobots that monitor synaptic connections and brain architecture, noting any changes and updating the ego backup in real time, right up to the moment of death. If the character dies, the cortical stack can be recovered and they may be restored from the backup (see *Resleeving,* p. 271). Cortical stacks do not have external or wireless access (for security), they must be surgically removed (see *Retrieving a Cortical Stack,* p. 268). Cortical stacks are extremely durable, requiring special effort to damage or destroy. They are commonly recovered from bodies that have otherwise been pulped or mangled. Cortical stacks are intentionally isolated from mesh inserts and other implants, as a security measure to prevent hacking or external tampering. **[Moderate, but included for free with most morphs]**

CYBERBRAIN

Cybernetic brains are where the ego (or controlling AI) resides in synthmorphs and pods. Modeled on biological brains, cyberbrains have a holistic architecture and serve as the command node and central processing point for sensory input and decision-making. Only one ego or AI may "inhabit" a cyberbrain at a time; to accommodate extras, mesh inserts (p. 300) or a ghost-rider module (p. 307) must be used. Since cyberbrains store memories digitally, they have the equivalent of mnemonic augmentation (p. 307). They also have a built-in puppet sock (p. 307) so that they

may be remote-controlled. Cyberbrains are vulnerable to brainhacking (p. 261) and other forms of electronic infiltration/attack. Cyberbrains come equipped with two or more pairs of external access jacks (p. 306), usually located at the base of the skull, which allow for direct wired connections. **[Moderate, but included for free in all synthetic morphs and pods]**

BIOWARE

Bioware augmentations can be acquired either as a genemod when the morph is designed and grown or as a later modification to an existing morph, either by using nanomachines to modify the morph's tissue or by externally growing the organ and implanting it. Bioware may be used to enhance biomorphs (including pods and uplifts), but not synthmorphs.

ENHANCED SENSES

The following are a list of the most common enhanced senses. Each is also available as a cybernetic implant, but bioware is much more common.

Direction Sense: The character has an innate sense of direction and distance using advanced inertial navigation. The character can arbitrarily define any point as "north" and keep track of which direction that is, as well as knowing approximately how far they have come. Characters with this augmentation can always retrace any route they have taken, only experiencing difficulty with three-dimensional routes lacking navigational markers (such as deep space or undersea; apply a –30 modifier). Since positioning inside habitats by anyone with basic mesh inserts is an automatic affair, only characters venturing to remote locations require this augmentation. **[Low]**

Echolocation: The character possesses sonar similar to that of a bat or dolphin. The character bounces brief ultrasonic pulses off their surroundings and uses them to form an image of these surroundings through the pattern of reflections of these pulses received by the character's ears. For more details, see *Using Enhanced Senses,* p. 302. This augmentation works in both air and water and has a range of 20 meters in air and 100 meters in water. **[Low]**

Enhanced Hearing: The morph's ears are enhanced to hear both higher and lower frequency sounds—the range of sounds they can hear is twice that of normal human ears (see *Using Enhanced Senses,* p. 302). In addition, their hearing is considerably more sensitive, allowing them to hear sounds as if they were five times closer than they are. A character with this augmentation can easily overhear even a softly spoken conversation at another table in a small restaurant. This augmentation provides a +20 modifier to all Perception Tests involving hearing. **[Low]**

Enhanced Smell: The morph's sense of smell is equal to that of a bloodhound. The user can identify both chemicals and individuals by smell, and can track people and chemically reactive objects by smell as long as the trail was made within the last several hours and has not been obscured. The character can also gain a general sense of the emotions and health of any character within 5 meters (+20 to Perception or Kinesics Tests to do so). **[Low]**

Enhanced Vision: The morph's eyes have tetrachromatic vision capable of exceptional color differentiation. These eyes can also see the electromagnetic spectrum from terahertz wave frequencies to gamma rays, enabling them to see a total of several dozen colors, instead of the seven ordinary human eyes can perceive. In addition, these eyes have a variable focus equivalent to 5 power magnifiers or binoculars. This augmentation provides a +20 modifier to all Perception Tests involving vision. For further applications, see *Using Enhances Senses,* p. 302. **[Low]**

MENTAL AUGMENTATIONS

Mental augmentations are extremely common.

Eidetic Memory: The character can remember everything that ever happened to them, in detail, with no long term memory loss. For example, they can recite a page they read in a book a month ago, recall a string of 200 random characters they viewed a year ago, or even tell you what they had for breakfast on a particular date a decade ago. However, they can only remember things they paid attention to. The character will not remember the contents of a note on someone's desk if they merely glanced at it; they must specifically have read it. No effort is required to use this augmentation, the character merely needs to attempt to remember a specific fact. **[Low]**

Hyper Linguist: The morph's brain maintains the linguistic flexibility of a small child, allowing the character to learn languages with great ease. This functions as the Hyper Linguist trait, p. 146. **[Low]**

Math Boost: This implants functions as the Math Wiz trait, p. 146. **[Low]**

Multiple Personalities: The character's brain is intentionally partitioned to accommodate an extra personality. This multiplicity is not viewed as a disorder, but as a cognitive tool to help people deal with their hypercomplex environments. This extra personality can be an NPC run by the gamemaster, a separate character (in ego form only) made by the player, or the downloaded fork of another character. For all intents and purposes, the extra personality is treated as a separate ego (i.e., it may fork separately), except that both personalities are backed up in the same cortical stack and if downloaded they must be placed in separate morphs or in another morph with this implant.

Only one ego may be in control of the morph at a time. The other resides in the background, still active, but not on a surface level. Each ego is completely aware of what the other is doing, thinking, etc. If for some reason the subsumed personality wants to come to the fore, but the other personality won't relinquish control, make an Opposed WIL x 3 Test. Each ego has its own Lucidity and Trauma Threshold, and they track stress and trauma separately. Any psi attacks or social/mental influences only affect the personality at the fore.

USING ENHANCED SENSES

Personal augmentations and technological aids have drastically increased the sensory capabilities of most transhumans. The following notes provide some details on what capabilities these sensory functions provide. The capabilities are typically the same whether it's a biological sense or a technological sensor, though tech sensors can "turn off" certain wavelengths and sense only specific frequencies, whereas biological senses perceive the full spectrum with no ability to filter parts out.

SENSORY DATABASES

Both technological sensors and enhanced biological senses come equipped with databases of scanned "signatures" that make it easier to identify whatever the user is sensing (in the case of bioware, these databases are stored and accessed via the character's mesh inserts). For example, infrared sensors feature databases listing the heat signatures of different animals and items, making it easier to identify such things. In relevant situations, apply a +20 modifier for identifying targets sensed this way.

ACTIVE VS. PASSIVE

An **active** scanner must actually emit its particular frequency and then measure the reflections; this means a similar sensor can detect it and home in on the emitting source. For example, a character with enhanced vision can literally see the terahertz radiation emitted by someone using an active terahertz sensor, much like someone with normal vision can see the light emitted by a flashlight.

A **passive** scanner simply scans frequencies that occur naturally—there is nothing to give the sensor away.

ELECTROMAGNETIC SPECTRUM

For *Eclipse Phase* rules purposes, the EM spectrum is broken down by wavelength and frequency into these categories: radio, microwave, terahertz, infrared, visible light, ultraviolet, X-rays, and gamma rays.

Radar (Radio/Microwave): Radar sensors work by actively emitting radio waves and microwaves and measuring them as they bounce off the target. Radar works best when detecting metallic objects, and is less effective (–20 modifier) against biomorphs and small items. Resolution is not high, however, so it can see shapes but not colors or fine details. It can be used to detect both speed and movement, can "see" through walls (up to a cumulative Armor + Durability of 100), and can detect cybernetic implants or concealed items. At close ranges (1-2 meters), it can detect pulse rate and respiration by measuring the motion of the chest cavity.

Terahertz: Terahertz sensors emit t-rays, measure the reflections, and compare them to a database of terahertz signatures that different items/materials have. The resolution is higher than radar, but with slightly less detail than normal vision. Similar to radar, terahertz sensors can see through walls and other materials, but to a lesser extent (up to a cumulative Armor + Durability of 50). T-rays occur naturally, but terahertz sensors normally require an emitter as they are absorbed by atmosphere (as well as water and metal). In space, however, an emitter would not be required. Likewise, passive terahertz scans within atmosphere have an effective range of 25 meters. T-rays do not penetrate skin, so are ineffective for locating implants.

Infrared: Near-infrared wavelengths are used for night vision, providing resolution and detail equivalent to regular vision under low-light conditions. Mid-long infrared is excellent for detecting heat sources (unobstructed by fog or smoke) and temperature differences (as small as 0.1 degree C), and such thermal imaging will sense the dissipating heat traces left by warm sources on colder ones, allowing the user to see where someone was sitting, trace fading heat footprints, or see what buttons were pressed if they are quick enough. Infrared

Having an extra ego in your head, working in the background, is helpful for multitasking. The character receives an extra Complex Action each turn that may only be used for mental or mesh actions. **[High]**

PHYSICAL AUGMENTATIONS

Most physical bioware augmentations are derived from the capabilities of animals.

Adrenal Boost: This adrenal gland enhancement supercharges the character's adrenal response to situations that invoke stress, pain, or strong emotions (fear, anger, lust, hate). When activated, the concentrated burst of norepinephrine accelerates heart rate and blood flow and burns carbohydrates. In game terms, this allows the character to ignore the –10 modifier from 1 wound and temporarily increases REF by +10 (also boosting REF-linked skills and Initiative). These modifiers apply until the character has calmed down (if the character also has endocrine control, p. 304, then adrenal boosts can be activated and deactivated at will, and the negated wounds are cumulative). **[High]**

Bioweave Armor (Light): Bioweave armor involves lacing the morph's skin with artificial spider silk biological fibers. This provides an Armor rating of 2/3 without changing the appearance, texture, or sensitivity of the morph's skin. This armor is cumulative with worn armor. **[Low]**

USING ENHANCED SENSES (CONT.)

also detects the blood flow in a biomorph's face, which can be useful in judging emotional states (+20 modifier to Kinesics Tests), and can spot subsurface implants. Some normally white surfaces are reflective (mirrored) in infrared, potentially allowing an infrared viewer to see around corners or behind themselves. On the other hand, some glass is opaque to infrared light. Infrared is also useful for determining chemical composition (enabling Chemistry Tests by sight alone). Infrared sensory input is passive.

Lidar (Visible Light): Similar to radar, but with much higher resolution, lidar actively bounces light from the infrared through ultraviolet spectrum off a target and measures the backscatter, fluorescence, and other properties. Lidar is very useful for detecting atmospheric chemical properties and weather. Like radar, it can be used to measure a target's range and speed, or develop a three-dimensional image. One clever use of lidar is to precisely "map" the position of everything in a room (taking several turns of scanning) and then check that positioning later to see if anything has been moved.

Ultraviolet: Some objects are fluorescent in ultraviolet light, including some animals, flowers, insects, urine, and minerals (which show up much better in ultraviolet than regular light). Some plants and animals have patterns that can only be seen in ultraviolet. Likewise, chemical dyes that only show up under ultraviolet, or that make certain substances (like blood) fluoresce under ultraviolet light, have various security purposes. Some glass is opaque at ultraviolet wavelengths.

X-Ray/Gamma-Ray: Backscatter imaging systems using X- and gamma-ray frequencies produce high-resolution three-dimensional images and are very useful for detecting concealed weapons and implants. Such imagers are very good at penetrating walls and metal (up to a cumulative Armor + Durability of 200, at least at levels safe to transhumans). These sensors can, of course, also detect the presence of harmful radiation.

SOUNDWAVES

The transmission of vibrations through a medium, sound is broken down into infrasound (frequencies below standard human hearing), normal acoustic range, and ultrasound (frequencies above standard human hearing). Soundwaves do not propagate in vacuum.

Ultrasound: Ultrasound sonar operates much like radar, bouncing sound waves off a target and measuring the returning echoes. Ultrasound imaging is similarly low-resolution, showing shapes and movement but no colors and few details unless measured closely (1-2 meters). Ultrasound is good for identifying how dense a material is, however, can detect denser materials hidden beneath less dense ones. Many medical devices utilize ultrasound, and ultrasound sensors can also detect gas leaks, frictional motor noises, and similar mechanical emissions. Ultrasound sensors are typically unaffected by noise clutter from standard acoustic frequencies.

Infrasound: Infrasound travels much further than regular sound frequencies (hundreds of kilometers). Mechanical machinery, seismic disturbances, tornados, explosions, waterfalls, and certain weather phenomena create infrasound waves. Large animals such as elephants and whales use infrasound to communicate via the ground over large distances, though infrasound data transfer is too slow for complex communications.

COMBINED SENSOR YSTEMS

When used in combination, these sensor technologies can be potent. For example, the use lidar, thermal imaging, and radar can provide a three-dimensional map of a building and everyone and everything inside. ■

Bioweave Armor (Heavy): Heavy bioweave armor involves lacing the morph's skin with a denser and thicker network of the same fibers. The morph's skin becomes thicker and somewhat less flexible except at the joints. The morph's skin also has an unusually smooth look, and a distinctively smooth and tough-feeling texture. This provides an Armor rating of 3/4 without decreasing the morph's mobility. The character's sense of touch, however, is significantly reduced (–20 modifier) except on their hands, feet, and face. This armor is cumulative with worn armor. **[Moderate]**

Carapace Armor: Carapace armor combines bioweave armor with hard but flexible plates of a chitin-ceramic hybrid material modeled on the microscopic structure and texture of arthropod exoskeletons. This armor is obvious and has a somewhat crocodilian or insectoid appearance (character's choice). The morph is completely hairless as well. This provides an Armor rating of 11/11. This armor is not cumulative with worn armor. **[Moderate]**

Chameleon Skin: The morph's skin is augmented with complex chromatophores so that it changes color like the skin of a chameleon or an octopus. The morph can match the appearance of almost any color and most patterns. This provides a +20 modifier to Infiltration Tests to avoid being seen or noticed, as long as the character is stationary or not moving faster than a

slow walk. The character must also be nude or wearing smart clothing (p. 325) or a chameleon cloak (p. 315) of the same color and pattern. In addition to blending in, the character can also consciously change the color and pattern of their skin to deliberately stand out (+20 on Perception Tests to notice) or simply to produce attractive or interesting colors or patterns. **[Low]**

Circadian Regulation: The morph only requires 2 hours of sleep to maintain health and function at peak mental capacity. The character dreams constantly while asleep and can both fall asleep and wake up almost instantly. In addition, the character can easily and with no ill-effects shift to a 2-day cycle, where they are awake for 44 hours and sleep for 4. **[Moderate]**

Claws: The morph has retractable claws like those of a cat. These claws do not interfere with the character's manual dexterity and are razor sharp. However, they are relatively small and only do 1d10 + 1 + (SOM ÷ 10) damage, with an AP of –1. As a result, they are legal in almost all habitats and are considered tools as much as weapons. **[Low]**

Clean Metabolism: The morph's symbiotic bacteria, gut flora, and glands have been genetically engineered to keep the morph "clean." The morph also produces smart antibiotics that prevent the growth of any bacteria or yeasts in it or on its skin. As a result, the morph is completely immune to infections, dental cavities, and bad breath, its sweat has no scent, and the morph's efficient digestion produces somewhat less solid waste and less odorous chemicals. **[Moderate]**

Drug Glands: The morph has specially-tailored glands designed to produce specific hormones or chemicals and release them in the body. The character has control over these glands and can release the chemicals at will. Each type of drug gland is considered a separate enhancement. For potential drugs and chemicals, see p. 317. **[Low]**

Eelware: Derived from electric eel genetics, a character can have eelware implanted so that it connects to a network of bioconductors in the hands and feet (or other limbs), allowing the character to generate stunning shocks with a touch. Eelware inflicts shock damage (p. 204) exactly like a pair of shock gloves. Eelware can also be used to power implants and specially designed handheld devices by touch. **[Low]**

Emotional Dampers: This low-cost alternative to endocrine control (p. 304) allows the user to voluntarily damp their morph's emotional responses and various non-verbal cues like pupil dilation, eye movement, or vocal tone. Using this augmentation allows the user to lie and conceal their emotions in such as way as oo fool the keenest observer; apply a +30 modifier to Deception and Impersonation Tests. This modification does not affect methods of detecting lies and emotions that involve reading the character's neural state, including psi-gamma sleights. However, this augmentation damps out all emotional responses and so causes the character to be less persuasive in real-time personal interactions, imposing a –10 modifier to other Social skill tests like Persuasion. Characters can turn this augmentation on or off at will. **[Low]**

Endocrine Control: This augmentation modifies the morph's endocrine system, giving the character fine control over their hormone output. This allows the character to completely control their appetite and emotions and to regulate pain. They receive a +30 modifier against the effects of hunger, fear, and any forms of emotional manipulation, such as the Drive Emotion sleight. This augmentation also allows character to lie with perfect conviction and to completely fool all methods of lie detection that do not rely on the target's neural output; apply a +20 modifier to Deception Tests. It also allows the character to remain awake for 48 hours without penalty, but after this time the character begins experiencing normal

fatigue. Finally, the ability to regulate pain reception allows the character to ignore the –10 modifier from 1 wound. [**High**]

Enhanced Pheromones: The morph's biochemistry has been altered so that it produces enhanced pheromonal signals that subconsciously affect the behavior of other humans in the vicinity. These pheromones make the character more attractive and trustworthy to the target; apply a +10 modifier to appropriate Social skill tests, such as Persuasion. This augmentation only affects characters who can smell the pheromones, and it does not affect uplifts or xenomorphs. [**Low**]

Enhanced Respiration: By boosting both lung efficiency and the blood's oxygen-carrying capacity, the character can live comfortably in both high and low pressure environments, from 0.2 atmospheres to 5 atmospheres, with no dizziness or need for gradual decompression. In addition, the character can hold their breath for up to 30 minutes when performing minimal activity or for up to 10 minutes while performing highly strenuous activity. [**Low**]

Gills: The morph's lung tissue has been adapted to function as gills, allowing the morph to breathe both air and water, as long as the water is not toxic or too stagnant. Characters with this augmentation breathe in water and then expel the water through slits just underneath their lowest pair of ribs that seal when the character is not underwater. [**Low**]

Grip Pads: The morph possesses specialized pads on its palms, lower arms, shins, and the bottoms of its feet. Designed to emulate the pads on gecko feet, characters can support themselves on a wall or ceiling by placing any two of these pads against any surface not made from a material specially designed to resist this augmentation. Characters can climb any surface and move easily across ceilings that can support their weight. Apply a +30 modifier to Climbing Tests. The pads must be free to touch the surface the character is climbing (no gloves). The nature of these pads is obvious to anyone looking at them, but they do not impair the character's sense of touch or manual dexterity. If combined with the vacuum sealing augmentation, the character can even stick to surfaces in the vacuum of space. [**Low**]

Hibernation: The character can voluntarily reduce the morph's metabolism to the point that the morph requires only 5% of the normal amount of food, water, and air. The character appears to sink into a deep sleep, but can maintain a dim awareness of both touch and sound and so can be easily awakened. Entering or leaving this state requires 3 minutes where the character is relatively helpless. With sufficient air, characters can safely hibernate for up to 40 days without food or water. [**Low**]

Muscle Augmentation: The morph's muscle mass has been enhanced and toned and myofibers strengthened. Apply a +5 modifier to SOM. [**High**]

Neurachem: This bioware modification enhances the character's chemical synapses and juices their neurotransmitters, drastically speeding up neural connections. Neurachem can be mentally activated or triggered by charged emotions. Level 1 neurachem increases the character's Speed stat by +1, with no side effect. Level 2 raises the Speed stat by +2, but each time it is used the character suffers a nervous system fatigue hangover for 1 hour after the boost wears off (apply a –20 modifier to all actions). [**High (Level 1), Expensive (Level 2)**]

Poison Gland: Similar to the drug gland, this morph has special glands that produce poisons, like the venom glands of a snake. The morph has poison glands in its fingers and mouth, so that it can deliver either poison by scratching someone with a fingernail, biting them hard enough to draw blood, or even by sharing a beverage with someone or spitting into their drink. The morph is immune to the poisons it produces. These glands may not produce nanotoxins. [**Low**]

Prehensile Feet: The morph's feet and leg joints are altered so that its toes are longer and more dexterous and the big toe is transformed into an opposable thumb. Physically, the morph's feet resemble a longer narrower hand or a human foot with finger (and thumb)-like toes. The character can walk normally but must wear specially designed shoes. However, this morph runs somewhat slower than a morph with unmodified feet (–1 meter per Action Turn). In addition, the morph's hips are slightly modified to allow greater mobility. In a properly constructed chair, or when floating in zero-G, the character can use both their hands and their feet to manipulate the same object. Most morphs used by characters who live in zero-G possess this augmentation. [**Low**]

Prehensile Tail: A long (1.5 meters) prehensile tail is added to the morph's backside, extending out from the tailbone. This tail is prehensile and may be used to grab, hold, and even manipulate objects. The character can control the tail's movements with concentration, but it otherwise tends to move on its own. The tail also improves the character's balance; apply a +10 to any Physical skill tests where balance is a factor. [**Low**]

Sex Switch: A complex suite of alterations allows the character to switch their physical sex to male, female, hermaphrodite, or neuter. This change is mentally triggered but takes approximately 1 week to complete. [**Moderate**]

Skin Pocket: The morph has a pocket within its skin layer, capable of holding and providing concealment (+30) for small items. [**Trivial**]

Temperature Tolerance: The morph's temperature regulation and circulation are both substantially enhanced allowing the character to survive in temperatures as low as –30 degrees Celsius and as high as 60 degrees Celsius without discomfort or ill effects. [**Low**]

Toxin Filters: The morph gains an improved liver and kidneys and biological filters in its lungs. Characters with this augmentation are immune to all chemical and biological toxins, including everything from recreational chemicals to nerve agents to spoiled food. In addition, the character can safely and comfortably

SYNTHMORPHS AND BIOWARE

Though bioware is preferred and more common, many types of bioware can be mimicked with cybernetics. This is especially useful for synthmorphs/robots, which cannot be enhanced with bioware. The following bioware items may be replicated as cybernetics for synthmorphs and robots:

- Chameleon Skin
- Drug Glands
- Eelware
- Emotional Dampers
- Enhanced Senses (All)
- Grip Pads
- Mental Augmentations (All)
- Muscle Augmentation
- Neurachem
- Poison Glands
- Prehensile Feet
- Prehensile Tail ■

breathe smoke and drink salt water. Unlike medichines, toxin immunity prevents the character from experiencing even brief harm or discomfort from a toxin (medichines merely rapidly repair damage caused by the toxin and then remove it from the morph). This augmentation provides no resistance to concentrated acid, nanotechnological attacks, or similar destructive agents. Some characters with this augmentation learn to enjoy the taste of various chemical toxins like cyanide or arsenic. [**Moderate**]

Vacuum Sealing: To possess this augmentation, the character must also possess some form of bioware armor or carapace armor. The morph has been specially designed to survive the effects of vacuum. The character's skin resists vacuum as well as protecting the wearer from temperatures from –75 to 100 C. In addition, the character's mouth, nose, and other orifices can seal sufficiently well to resist vacuum, and the morph possesses a special membrane that extends over their eyes, allowing the character to see in vacuum without risking any eye damage. This augmentation is usually combined with either the enhanced respiration or oxygen storage augmentation, or both together. [**High**]

CYBERWARE

Very little cyberware is physically implanted. Instead, the morph is placed in a healing vat (p. 326) and the vat's nanobots construct the cyberware inside the biomorph's body. Cyberware is rarely used for anything that can be accomplished using bioware.

Synthmorphs and bots may also also use cyberware.

ENHANCED SENSES

In addition to being able to duplicate the affects of all bioware enhanced senses, there are a few enhanced senses that can only be produced using cyberware.

Anti-Glare: This visual mod eliminates penalties for glare. [**Low**]

Electrical Sense: The character can sense electric fields. Within 5 meters, the character can instantly tell if an electrical device is on or off and can see the precise location of electrical wiring behind a wall or inside a device. This sense gives the character a +10 modifier on any test involving analyzing, repairing, or modifying electrical equipment. [**Low**]

Radiation sense: The character can sense the presence and approximate source of all forms of dangerous radiation, including neutrons, charged particles, and cosmic rays. [**Low**]

T-Ray Emitter: Mounted under the skin of the user's forehead, this implant generates low-powered beams of terahertz radiation (T-rays) that allow the character to see using reflected T-rays. As discussed in *Using Enhanced Senses*, p. 302, this implant combined with the enhanced vision enhancement (or a terahertz sensor) allows the user to effectively see through cloth, plastic, wood, masonry, composites, and ceramics as well as being able to determine the composition of various materials. This implant allows the user to see using reflected T-rays for 20 meters in a normal atmosphere and for 100 meters in vacuum. [**Low**]

MENTAL AUGMENTATION

These cybernetic augmentations enhance the brain and mental functions.

Access Jacks: Usually located in the base of the skull or neck, this implant is an external socket with a direct neural interface. It allows the character to establish a direct wired connection using a fiberoptic cable to external devices or other characters, which can be useful in places where wireless links are unreliable or complete privacy is required. Two characters linked via access jack can "speak" mind-to-mind and transfer information between their mesh inserts and other implants. All synthmorphs have these by default. [**Low**]

Dead Switch: This cortical stack (p. 300) accessory is designed to keep the stack from falling into the wrong hands. If the morph is killed, the dead switch wipes and melts the cortical stack completely, so that the ego cannot be recovered. This option is generally only used by covert operatives with recent backups. [**Low**]

Emergency Farcaster: Only characters with cortical stacks can possess this augmentation. The morph has an implanted quantum farcaster (p. 314) linked to a highly secure storage facility. The high cost of this implant also covers the cost of this storage. Using standard radio and quantum encryption, the farcaster broadcasts full backups of the character's ego (pulled from the cortical stack) once every 48 hours. At the gamemaster's discretion, the backup interval may be scheduled more or less frequently, keeping in mind that ego broadcasts are generally limited for security

purposes and because they hog bandwidth. These broadcasts only work when the character is in radio contact with the storage facility and is typically only used inside a habitat to broadcast backups back to a nearby space ship. If the radio broadcasts are blocked or jammed, this device cannot make backups.

In the event of a farcaster failure, this augmentation also includes a single-use emergency neutrino broadcaster (p. 314) as well. This broadcaster contains approximately 10 nanograms of antimatter stored in an orange-sized triply-redundant magnetic containment vessel. If the character is dying or urgently wishes to depart the morph, this tiny amount of antimatter is brought into contact with a similarly tiny amount of matter in a controlled fashion that generates a single brief and carefully coded neutrino pulse of the ego's most recent backup. However, the heat generated by this process literally cooks the entire morph, killing it and destroying all implants and electronics in or on it.

This entire process takes less than 0.1 second and the broadcast can be received as long as the neutrino receiver is within 100 astronomical units of the character. Within the solar system, this implant effectively guarantees the character's backup. It is less useful on exoplanets where the character is out of neutrino range of their backup facility. The amount of antimatter carried by this implant is sufficiently small enough that it does not produce an explosion and will not damage any surrounding objects. Most habitats carefully scan all visitors to determine if they have this implant and if the amounts of antimatter involved are sufficiently low as not to pose a danger to the habitat and its inhabitants, and some ban this implant entirely. **[Expensive]**

Ghostrider Module: This implant allows the character to carry another infomorph inside their head. This infomorph could be another muse, an AI, a backed-up ego, or a fork. The module is linked to the character's mesh inserts, so the ghost-rider can access the mesh. The character may limit the ghost-rider's access, or may allow them direct access to their sensory information, thoughts, communications, and other implants. **[Low]**

Mnemonic Augmentation: A character with this augmentation and a cortical stack can access digital recordings of all of the sensory data they have experienced in XP format (and they may share these recordings with others). Mnemonic augmentation differs from the eidetic memory bioware because it allows characters to digitally share all of their sensory data with others. It also allows them to closely examine sensory data they did not initially look at. For example, If the character glanced at a note but did not read it, they can later use image enhancement software to enhance this image and in most cases actually read what the note said. Mnemonic augmentation allows the character to clearly hear all background noises, like a conversation at a nearby table that the character only initially heard a few words of. Using mnemonic augmentation to retrieve a specific piece of information is quite easy, but usually requires between 2 and 20 minutes of concentration. **[Low]**

Multi-Tasking: Only characters with cortical stacks can possess this augmentation. The character has an advanced computer installed in their brain that uses the data in the cortical stack to create several simultaneous short-term forks to handle various mental tasks. By design, this computer automatically reintegrates all of these forks into the character's core personality after a maximum of 4 hours, earlier if desired. This augmentation allows the character to both plan a speech and engage in intensive mesh-browsing while simultaneously fighting a gun battle or running from pursuit, since each of the forks operates independently. However, these forks can only perform purely mental or on-line interactions. This augmentation can produce a maximum of two forks at a time, giving the character an extra two Complex Actions on every Action Phase for mental or on-line actions. This implant cannot be used simultaneously with any other augmentation that allows for extra actions, or with the mental speed augmentation (p. 308). **[High]**

Puppet Sock: This implanted computer allows the biomorph's body (the "puppet") to be controlled by another character (the "puppeteer"). While active, the puppet has no control over their body and is simply along for the ride (at the gamemaster's discretion, puppets who are tormented by repeated or extensive loss of control may suffer mental stress). The puppeteer may directly "jam" the puppet or remote control it in the same way that robots and pods are teleoperated (p. 196). The puppeteer must either be ghost-riding the puppet (see the *Ghostrider Module,* p. 307) or have a direct communications link (via mesh, radio, laser, etc.). **[Moderate]**

Physical Augmentations

This implants enhance the morph's physical body.

Cyberclaws: The bones on the back of the morph's hand are bonded to smart material claws. These claws can extend through concealed ports in the morph's skin and extend 6 inches past the morph's knuckles. These razor-sharp weapons inflict 1d10 + 3 + (SOM ÷ 10) damage and have an AP of –2. If combined with eelware (p. 304), they can also inflict electric shocks. Likewise, cyberclaws can also deliver poison or nanotoxins secreted from a poison gland (p. 305) or implanted nanotoxins. **[Low]**

Cyberlimb: In an age when arms and legs can easily be regrown, many people consider cybernetic prostheses to be vulgar and distasteful. The Scum and others, however, treat them as iconic symbols of self-expression. Standard replacement cyberlimbs function the same as their biological equivalents, though that particular limb receives a +3/+3 Armor bonus when targeted specifically (this bonus does not apply to synthmorphs). Cyberlimbs may be masked to look real (see *Synthetic Mask,* p. 311), and may also feature small compartments for hiding/storing small objects. **[Moderate]**

Cyberlimb Plus: More extravagant cyberlimb models are also available, though they require more severe body alteration to accommodate. These limbs apply a +5 SOM bonus per limb (maximum +10). They may be replacement limbs or "extra" limbs anchored in the body's skeletal frame. These cyberlimbs may not be masked. **[High]**

Hand Laser: The morph has a weapon-grade laser implanted in its forearm, with a flexible waveguide leading to a lens located between the first two knuckles on the morph's dominant hand. The laser fires from this waveguide, inflicting 2d10 damage with 0 AP. The laser is powered by a small nuclear battery located in the morph's torso, good for 50 shots before it must be recharged like other beam weapon batteries (p. 338). **[Moderate]**

Hardened Skeleton: The morph's skeleton has been laced with strengthening materials. Apply a +5 DUR and +5 SOM bonus. **[High]**

Oxygen Reserve: The morph has a miniature oxygen tank and rebreather installed in its torso. This implant provides the equivalent of the life support system in a light vacsuit (p. 333), allowing the character to breathe comfortably for up to 3 hours. It feeds oxygen directly to the morph's blood stream, avoiding problems with pressure changes. Implanted sensors automatically cause the character to use the stored oxygen if they detect poisonous or insufficient atmosphere. Without vacuum sealing, the character can only survive in vacuum for 5 minutes, but remains conscious and active for the entire time, giving them far more time to find shelter or a vacsuit than characters without this implant. For every hour the character is in a breathable atmosphere, this implant recovers one hour of oxygen storage. The implant can be fully recharged within 15 minutes if the character is in a high-pressure mostly oxygen atmosphere. **[Low]**

Reflex Boosters: The morph's spinal column and nervous system is rewired with superconducting materials, boosting transmission speed. This raises the character's REF by +10 and improves Speed by +1. **[Expensive]**

NANOWARE

All augmentation nanoware is advanced nanotechnology (p. 328), consisting of a grape-sized nanobot generator that produces specialized nanomachines. Nanoware is available for synthmorphs and bots in addition to biomorphs.

Implanted Nanotoxins: The morph has an implanted nanobot hive that produces nanotoxins (p. 324). This implant is designed so that the character can deploy these nanobots instantly via a scratch with claws, spraying with saliva, or simply making continuous bare-skin contact. Characters can choose whether or not to deploy these nanobots. Each nanotoxin generator only produces a single variety of nanobots, with the most common types being ones designed to kill or incapacitate almost any living target or ones designed to destroy delicate machinery. Characters are immune to their own nanotoxins. Nanotoxins are highly restricted and many habitats will not allow anyone with this implant on board. **[Moderate]**

Medichines: This is the most common form of nanoware. These nanobots monitor the user's body at a cellular level and fix any problems that arise.

Medichines eliminate most diseases, drugs, and toxins (but not nanodrugs or nanotoxins) before they can do more than minor harm to the host (see *Drug Effects*, p. 317). If desired, the user can temporarily override this protection to permit intoxication or other effects, but unless the character activates a second specially labeled override, medichines prevent the toxins from accumulating to lethal or permanently harmful levels. In this case, they can also be activated at a later point to reduce a drug or toxin's remaining duration by half.

Medichines allow the character to ignore the effects of 1 wound. They also speed normal healing as noted under *Biomorph Healing*, p. 208. If the user suffers 5 or more wounds at once, or more than 6 wounds in an hour, the damage has exceeded the medichines' ability to repair. In this case, the medichines place the character into a medical stasis, where their mind and body are perfectly preserved, but where the character cannot act in any way. Under these circumstances the medichines also send out a priority call for emergency services via the character's mesh inserts.

Medichines for synthmorphs and bots consist of nanobots that monitor and repair the shell's integrity and internal system functions. Note that the synthmorph version of medichines allows the synthmorph to self-repair in the same manner by which a biomorph with medichines would naturally heal (p. 208). **[Low]**

Mental Speed: With this nanoware system, nanobots alter the character's neural architecture and augment the functioning of their neurons. The character can deliberately speed up their mind to think and also receive and process sensory information far faster than ordinary humans. Time seems to subjectively slow down for the character, allowing them to carefully plan their next action, even if they only have a split second to do so. With this system active, the character can discern things occurring too fast for a normal human to perceive, such as the individual frames of an old analog film or understanding sounds that were accelerated to many times their normal speed. The character can also read 10 times faster than normal and can track the paths of bullets and similar fast-moving objects with a successful Perception Test.

When using this augmentation, the character gains two extra Complex Actions during each Action Phase that may only be used for mental actions. The character also receives a +30 Initiative bonus. The character thinks at normal speed whenever this nanoware is inactive. This nanoware is incompatible with any other augmentation that provides any form of extra actions, such as multi-tasking. This augmentation can be used

as often as desired, but actively using it renders ordinary conversation and social interactions difficult and requires concentration to maintain. [**High**]

Nanophages: These nanobots patrol the body, alert for signs of intrusive nanodrugs or -toxins and destroying them before they have more than a minor effect. Nanophages provide automatic immunity against nanodrugs and nanotoxins unless they are specifically commanded to stand down by the user, via their mesh implants. [**Moderate**]

Oracles: These neural macrosensing nanobots pay attention to the sensory input on which the character is not focusing, alerting them about important things they might otherwise overlook. Oracles also act as a sort of memory buffer and search aid, extending short term memory, helping the character recall memories and details, and crosschecking them with other memories. Oracles negate Perception modifiers for distraction, apply a +10 modifier to Investigation Tests, and add a +30 bonus to memory-related tests. [**Moderate**]

Respirocytes: These nanobots act as highly-efficient artificial red blood cells, increasing the ability to transfer oxygen and carbon dioxide. This increases the morph's ability to hold their breath to 4 hours and increases DUR by +5. [**Moderate**]

Skillware: The morph's brain is laced with a network of artificial neurons that may be formatted with downloaded information. This allows the user to download skillsofts (p. 332) into their brains, gaining the use of those programmed skills until the skillsoft is erased or replaced. Skillware systems are only capable of handling 100 total skill points worth of skillsofts at a time. [**High**]

Skinflex: This disguise implant allows the user to restructure their facial features and musculature and alter skin tone and hair color. The entire process takes a mere 20 minutes. Skinflex adds +30 to Disguise Tests. [**Moderate**]

Skinlink: Skinlink nanobots live on the morph's external skin or shell, automatically swarming over and creating a physical connection with any electronics the user touches. They also take advantage of the electrical field in a biomorph's skin for communication. They allow the user to communicate and mesh with any devices merely by touching them. This is considered a wired link, and so is not subject to wireless interception or interference. Two skinlinked characters can also communicate and mesh simply by touching. [**Moderate**]

Wrist-Mounted Tools: The morph has a 6 centimeter-wide metal band containing nanobot generators implanted around each wrist. These nanobots link together to duplicate the function of a utilitool (p. 326), creating narrow, highly flexible arms that each ends in a specialized tool. These nanobots can also produce tiny fiber optics to allow the character to see through small openings, as well as being able to create small weapons equal to bioware claws. The fact that these tool are mentally controlled gives the character a +20 modifier to skills involving repairing or modifying devices with mechanical parts, opening locks or disarming alarm systems, or performing first aid. [**Moderate**]

COSMETIC MODS

In an age of universal beauty, artistic cosmetic modification of your body is commonly pursued by many transhumans. Body mods once considered dangerous or edgy are now safe and commonplace, especially among factions like the anarchists, scum, or brinkers.

Bodysculpting: If your morph's enhanced physique isn't enough, you can take it further with custom bodysculpting such as as elongated ears or fingers, nose alteration, hair addition/removal, feathers, exotic

eyes, snakeskin, endowed genitalia, and more unusual physical alterations. [**Low**]

Nanotats: Tattoos created with nanobots can move around the body, change shape/color/brightness, texture, alternate text and images, and/or even create minor holographic effects on the skin's surface, all controllable via mesh inserts. [**Low**]

Piercings: Name any part of the body and someone's figured out a way to pierce it, probably multiple times. Hoops, barbells, plugs, and chains are extremely common, often made of shapechanging smart materials. [**Trivial**]

Scarification: Given modern medical abilities, scars of any sort are purely an affectation. [**Trivial**]

Scent Alteration: Minor changes to a body's biochemistry can alter a character's natural smell or constantly perfume them. [**Low**]

Skindyes: Dye jobs are available in all conceivable colors and patterns. [**Trivial**]

Subdermal Implants: Adding small implants under the skin can create bumps, ridges, piercing anchors, and similar textures and alterations. [**Trivial**]

Robotic Enhancements

The following modifications are only available to synthmorphs/robots.

Armor

These armor modifications replace the synthmorph's built-in Armor rating.

Heavy Combat Armor: The synthmorph's frame is loaded with armor that offers protection from heavy weapons for serious combat operations. This modification is bulky and noticeable; the bot frame is encased in a heavy-duty carapace. It increases the bot's built-in Armor to 16/16. The shell's mobility systems and power output are also enhanced to deal with the extra load. [**High**]

Industrial Armor: The shell is equipped with protection against collisions, extreme weather, industrial accidents, and similar wear-and-tear. Increase the bot's built-in Armor rating to 10/10. [**Moderate**]

Light Combat Armor: The synthmorph's frame is protected by armor designed for policing and security duties. This increases the bot's built-in Armor to 14/12. [**Moderate**]

Mobility Systems

Shells are designed with a wide-range of propulsion systems, and are sometimes built for a specific environment/gravity. Some synthmorphs may have multiple mobility systems. Many such systems are retractable, meaning they can be folded away into the shell's frame.

Hopper: Hoppers have two or more legs designed to propel the morph forward or up, much like a frog or grasshopper. [**Moderate**]

Hovercraft: The shell uses an impeller to blast a cushion of high-pressure air off the surface below, repelling the frame off the ground (modern hovercraft do not use rubber skirts). Most hovercraft travel a meter or so above the ground, but can temporarily levitate themselves higher for short periods. [**Low**]

Ionic: The shell uses principles of magnetohydrodynamics to levitate and fly, by ionizing surrounding air into plasma to create lift and momentum. The shell is also spun for stability. This system does not work in vacuum, but an underwater version uses the same mechanics for propulsion in liquid environments. [**High**]

Microlight: Popular in low-grav and microgravity environments, microlights encompass several types of ultralight or lighter-than-air systems, such as powered paragliders, autogyros, balloons, aerostats, and blimps. These systems do not work in vacuum. [**Low**]

Roller: Only for circular shells, this system allows the synthmorph to roll like a ball. The shell rolls around an interior axle, propelled by a motor-driven pendulum. [**Moderate**]

Rotorcraft: Rotating blades create lift, allowing the shell to move and hover like a helicopter. Most models use tilt-rotors or tilt-wings so that the rotor-blades may be moved forward (for faster propeller-like propulsion) and for better maneuverability in zero-G. This system does not work in vacuum. [**Low**]

Snake: Commonly used by slitheroids, these shells use lateral undulation, flexing their body from left to right and waving their frame forward. Such shells may also use sidewinding or a concertina motion (straightening forward, then retracting the rear) to move. They also featured gyroscope stabilization so that they may circle into a hoop and roll like a wheel. [**Moderate**]

Submarine: Designed for undersea mobility, submarine shells use propellers or pumpjets to push through water. [**Moderate**]

Tracked: Tracked shells use smart rotating treads to work their way across surfaces that would bog down other ground vehicles. They can prop themselves up in order to overcome taller obstacles or to lay themselves down to bridge across a ditch or crevice. [**Low**]

Thrust Vector: These shells use either turbofans or turbojets to create atmospheric lift with a set of wings. The engines may be maneuvered to point and generate thrust in different directions for vertical takeoffs/landings and better maneuverability in zero-G. [**Moderate**]

Walker: Walkers use two or more limbs to walk or crawl across a surface. Many use grip pads (p. 305) or magnetic systems (p. 310) to stick to surfaces. [**Low**]

Wheeled: Most wheeled shells feature smart spokes that allow the wheels to conform their shape to obstacles and even climb stairs. Some low-grav shells feature puncture-resistant and self-repairing compressed-gas tires. [**Low**]

Winged: Primarily used by smaller shells, this system of four independently-controlled wings allows the shell to hover or move rapidly in any direction. [**Low**]

Physical Modifications

These mods are applied to the shell's physical frame.

Extra Limbs: The shell is equipped with one or more extra limbs. A character using these limbs

suffers an off-hand modifier (p. 193). These limbs may be arms (with hand/grippers/etc.), legs, tentacle-like, or otherwise articulated and/or prehensile. Some shells have rotational frames that allow them to move limbs around their body. **[Low]**

Fractal Digits: The synthmorph has "bush robot" digits that are capable of splitting into smaller digits, and those smaller digits into micro digits, and so on down to the micrometer scale, allowing for ultra-fine manipulation. Apply a +20 COO modifier where such fine manipulation is a factor (such as detailed repair work). The bot must have functioning nanoscopic vision (p. 311) to get this bonus. **[Moderate]**

Hidden Compartment: The shell has a concealed aperture for a shielded interior compartment, ideal for storing valuables or smuggling contraband. Apply a –30 modifier to detect this compartment either manually or with sensor scans. **[Low]**

Magnetic System: A magnetic system allows the shell to cling to most ferrous materials. This enables the character to walk in zero-G situations by magnetically adhering surfaces, hang upside down, and hold onto devices without letting them drop or drift away. The shell receives a +30 modifier whenever maintaining a magnetic hold on something. **[Low]**

Modular Design: This shell is designed to lock together with similar modular morphs in different architectural patterns to create larger gestalt forms. When united with other modules, the group is treated as a single unit/morph, with shared capabilities. If damaged and then separated, damage and wounds are distributed evenly between modules; uneven amounts are allocated randomly. The exact capabilities of different shapes depends on the composition, and is largely left in the gamemaster's hands. **[High]**

Pneumatic Limbs: The limbs are equipped with pneumatic cylinder systems that can generate up to 1,500 pounds of thrust. This allows the shell to push off and make impressive jumps (a synth of human size/weight can leap over 2 meters up). Apply a +20 to Freerunning Tests. A pneumatic limb used to strike an opponent in unarmed combat inflicts an extra 1d10 damage. **[Low]**

Retracting/Telescoping Limbs: The shell's limbs can either be retracted completely inside it's frame and/or extended for extra length (usually up to 1 or 2 meters extra). Telescoping limbs may give the shell a reach advantage in melee combat (p. 204). **[Low]**

Shape Adjusting: This shell is made from smart materials that allow it to alter its shape, altering its height, width, circumference, and external features, while retaining the same mass. This modification is typically employed to reshape the morph into special configurations adapted to specific tasks (for example, lengthening to crawl through a tunnel, widening its base for stability, expanding to reach out and attach to multiple access point simultaneously, and so on). This mod also allows the morph to change its features for disguise purposes; apply a +30 modifier to Disguise Tests. **[High]**

Structural Enhancement: This modification bolsters the shell's structural integrity, boosting its ability to take damage. Increase Durability by 10 and Wound Threshold by 2. **[Moderate]**

Swarm Composition: The shell is not a single unit but a swarm of hundreds of insect-sized robotic microdrones. Each individual "bug" is capable of crawling, rolling, hopping several meters, or using nanocopter fan blades for airlift. The cyberbrain, sensor systems, and implants are distributed throughout the swarm. Though the swarm can "meld" together into a roughly child-sized shape, the swarm is incapable of tackling physical tasks like grabbing, lifting, or holding as a unit. Individual bugs, however, are quite capable of interfacing with electronics. Swarms cannot carry most gear or wear armor, and may not make strength-based SOM-linked skill tests. For combat purposes, use the same rules as given for nanoswarms, p. 328. Damage and wounds are reflected as damaged/massacred bugs. The swarm may be "healed" by manufacturing more bugs.**[High]**

Synthetic Mask: The synthmorph is equipped with a realistic outer casing of faux-skin and carefully sculpted to pass as a biomorph (perhaps even a particular person). The morph can cry, spit, have sex, and will even bleed if cut. Only a detailed physical examination or a radar, teraherz, or x-ray scan will detect the synthmorph's true nature, and even then such exams/scans suffer a –30 modifier. **[Moderate]**

Weapon Mount: The shell carries a built-in (or built-on) weapon. This weapon mount may be either internal (concealed, only weapons small in relation to the shell may fit, –30 to Perception Tests to detect) or external (visible). It may be fixed (one direction only), swiveling (limited field of fire), or on an articulated mount (all directions). **[Low; Moderate for concealed/articulated]**

SENSORS

360° Vision: The shell's visual sensors are situated for a 360-degree field of vision. **[Low]**

Chemical Sniffer: This sensor detects molecules in the air and analyzes their chemical composition. It enables Chemistry Tests to determine the presence of gases, including toxins and other fumes. It can also detect the presence of explosives and firearms. **[Moderate]**

Lidar: This sensor emits laser light and measures the reflections to judge range, speed, and image the target. See *Using Enhanced Senses,* p. 302. **[Low]**

Nanoscopic Vision: The shell's visual sensors can focus like a microscope, using advanced superlens techniques to beat the optical diffraction limit and image objects as small as a nanometer. This allows the character to view and analyze objects as small as blood cells and even individual nanobots. The synthmorph must stay relatively steady to view objects at this scale. **[Moderate]**

Radar: This sensor system bounces radio or microwaves off targets and measures the reflected waves to judge size, composition, and motion. See *Using Enhanced Senses,* p. 302. **[Low]**

ARMOR

Modern personal armor systems have advanced from the high modulus polyethylene thermoplastics and aramid fabrics of the early 21st century. Armor in *Eclipse Phase* is derived from biotech, in the form of organoweave fibers and crystalline-grown plates, and nanotech, in the form of shock-absorbing fullerene (p. 298) materials. Occasionally other materials are used, such as metallic glass plates or shear-resistant fluids that harden against impacts. Such armor protects against (armor-piercing) bullets and kinetic impacts as well as bladed weapons and piercing sharp objects. They also insulate against both the explosive heating of energy weapons and electrical shocks. While such armor protects against bullets, the layers of material catch the bullet and redistribute its kinetic energy across the body, which can still result in severe blunt force trauma.

Rules for armor in combat can be found on p. 194. Armored exoskeletons are listed on p. 343.

Armor Clothing: The extra-resilient organoweave fibers and fullerene materials that offer basic protection against kinetic and energy weapons can be woven in with normal smart materials to create a wide range of discreet armor clothing that provides a subtle level of security. Such protective garments are indistinguishable from regular clothing and come in all styles and designs. Armor clothing provides an Armor Value of 3/4. **[Trivial]**

Armor Vest: Armor vests provide more thorough protection to a body's vital areas, covering the abdomen and torso completely, protecting the neck with a rigid collar, and even providing wrap-under protection for the groin. Though armor vests are not bulky, they are obvious as armor. Armor vests may be worn with armor clothing without penalty. Armor vests provide an Armor Value of 6/6. **[Low]**

Body Armor (Light): These high performance armor outfits protect the wearer from head to toe. An integrated armor vest is supplemented with increased protection on the limbs and joints, while still managing to be flexible and non-restrictive. Body armor is typically worn by security and police forces, and supplemented with a helmet. It provides an Armor Value of 10/10. **[Low]**

Body Armor (Heavy): Similar to light body armor, but with extra protective layers, often ergonomically manufactured to conform to a specific character's body, and an environmental seal with climate control to protect the wearer from hostile environments. It provides an Armor Value of 13/13. **[Moderate]**

Crash Suit: Designed for both industrial worksite safety and protection from accidental zero-G collisions, crash suits are also favored by sports enthusiasts and explorers. The basic jumpsuit offers comfortable protection equal to that of armor clothing. When activated with an electronic signal, however, elastic polymers within the suit stiffen and form rigid impact protection for vital areas. Crash suits provide an Armor Value of 3/4 when inactive and 4/6 when activated. **[Low]**

Helmet: This armor accessory is usually worn with body armor or a battle suit. Light helmets are open, whereas full helmets latch on and provide an environmental seal with a 12 hour supply of air. Light helmets provide an Armor Value bonus of +2/+2, whereas full helmets add +3/+3. Helmets are often equipped with an ecto (p. 325), a radio booster (p. 313), and sensors equal to specs (see p. 325). **[Trivial]**

Riot Shield: Used for mob suppression, riots shields are light-weight, tough, and may be set to electrify on command, stunning anyone who comes into contact with the outer surface (treat as shock glove effects, p. 334). Riot shields provide an Armor Value bonus of +3/+2. **[Low]**

Second Skin: This lightweight bodysuit, woven from spider silks and fullerenes, is typically worn as an underlayer, though some athletes use it as a uniform. It provides minimal protection, but may be worn with other armor without penalty. It provides an Armor Value of 1/3. **[Low]**

Smart Skin: Smart skin is an advanced nanofluid that covers the wearer's skin. It resembles liquid mercury but retains the texture and flexibility of normal skin until activated, at which point the material becomes rigid enough to protect the wearer and

ARMOR VALUES

ARMOR	ENERGY	KINETIC	PAGE
Armor Clothing	3	4	311
Armor Vest	6	6	312
Battle Suit Powered Exoskeleton	18	18	344
Bioweave Armor (Light)	2	3	302
Bioweave Armor (Heavy)	3	4	302
Body Armor (Light)	10	10	312
Body Armor (Heavy)	13	13	312
Carapace Armor	11	11	303
Crash Suit (Inactive)	3	4	312
Crash Suit (Active)	4	6	312
Exowalker	2	4	344
Hard Suit	15	15	334
Helmet (Light)	+2	+2	312
Helmet (Full)	+3	+3	312
Hyperdense Exoskeleton	6	12	344
Riot Shield	+3	+2	312
Second Skin	1	3	312
Smart Skin	3	2	312
Smart Vac Clothing	2	4	325
Spray Armor	2	2	312
Synthmorph Industrial Armor	10	10	310
Synthmorph Combat Armor (Light)	14	12	310
Synthmorph Combat Armor (Heavy)	16	16	310
Transporter Exoskeleton	2	4	344
Trike Exoskeleton	2	4	344
Vacsuit (Light)	5	5	333
Vacsuit (Standard)	7	7	333

distribute the kinetic energy (though still flexible enough at the joints not to impede movement). A specialized hive, worn by the character, replenishes the nanobots and stores them when not in use. Deploying the nanobots across the body takes a full Action Turn. Smart skin has an Armor Value of 3/2, and may be worn with other armor without penalty. **[Low]**

Spray Armor: This fast armor application comes in a spray can and disperses a smart chemical polymer that sticks to bare flesh (but does not adhere to hair and eyes). The polymer solidifies into a form fitting body armor fabric when exposed to body temperature with the look and feel of a latex suit. Spray armor does not work on synthetic morphs or on clothing or other armor. The color and feel of the armor can be adjusted with electric currents and additional polymers, making it popular among some socialite and nightlife scenes. The spray-on armor does not wash off, but degrades 1 point of armor (both energy and kinetic) every 12 hours. It may be removed with a special nanotech solvent. Spray armor has an Armor Value of 2/2. **[Low]**

ARMOR MODS

Armor modifications add extra materials or coatings that either enhance the armor's resistance to certain dangers or provide other effects. Armor mods may be easily added or removed with the appropriate nanobot applicators.

Ablative Patches: These thin and light slap-on patches of stick to armor and are designed to absorb heat and energy from beams and explosions, safely vaporizing and blowing hot gas away. Ablative patches increases the Armor Value by +4/+2, but each hit reduces both the energy and kinetic value of the ablative armor by 1. **[Trivial]**

Chameleon Coating: This provides the armor with the same effect as the chameleon cloak (p. 315). **[Trivial]**

Fireproofing: Fireproofing includes the addition of heat-resistant ceramic or fire-resistant layers, both capable of withstanding extremely high temperatures. Fireproofing increases the Armor Value by +2/+0, and provides an additional 10 points of armor against heat or fire specifically. **[Trivial]**

Immunogenic System: The immunogenic mod adds an active nanobot swarm, maintained by a specialized hive, that coats the outer layer of armor and also the non-armored parts of the wearer's morph. It acts as an outer immune system designed to neutralize toxic agents and nanotoxins with which it comes into contact. This provides immunity to drugs, toxins, and nanotoxins applied dermally, such as with a slap patch or splash grenade. It has no effect on inhaled, oral, or injected drugs (including coated weapons). **[Low]**

Lotus Coating: The armor has been impregnated with a superhydrophic coating (contact angle of around 170°) that repels all water-like liquids. If the armor is splashed by liquid toxins or chemicals, the effect is reduced since the liquids starts to roll off the armor. Apply a +30 modifier when defending against liquid-based attacks. **[Trivial]**

Offensive Armor: When activated, the outer layer of this armor is rigged to shock anyone or anything that contacts it with electricity. Treat its DV and effect as a shock baton (p. 334). **[Low]**

Reactive Coating: A thick layer of advanced nanotech is applied to the armor, protecting it with a colony of nanobots designed to sense incoming attacks. When an attack strikes the coating, it detonates to disrupt the attack. Bursts and full autofire are treated as a single attack. A reactive coating increases the Armor Value by +5/+5, but each detonation automatically inflicts 1 point of damage on the wearer. Reactive armor also works against melee attacks, but the attacker also suffers 1d10 ÷ 2 (round up) points of damage per attack (armor protects) from the microexplosion. Reactive coating only works against 5 attacks, after which the specialized nanobot hive replenishes the coating at the rate of 1 use per hour. **[Moderate]**

Refractive Glazing: A combination of reflectors, refractive metamaterials, and an energy transfer system with heat radiators provides extra protection against energy weapons. Increase the Armor Value by +3/+0. **[Low]**

Self-Healing: The armor is equipped with a nanohive that acts like repair spray (p. 333). **[Moderate]**

Shock Proof: Shock proof armor is electronically insulated to discharge and reduce the effect of shock weapons. Apply an additional +10 modifier when resisting the DV and effects of shock weapons (p. 204). **[Low]**

Thermal Dampening: Thermal dampening obfuscates heat signatures by converting body heat into electric energy. It makes the target more difficult to spot with thermal sensors; apply a –30 modifier for Perception Tests. **[Moderate]**

COMMUNICATIONS

The oldest and most widespread communications technology still in regular use is radio. Every habitat and world inhabited by transhumanity is awash in radio traffic, with humans, machines, and uplifts all constantly communicating with one another. The smallest radios are no larger than a spec of dust and have a range of no more than 20 meters, while the largest are the size of a truck and have a range of many thousands of miles. Radios large and small are ubiquitous and almost all devices contain at least short-range radios so they may interact with the mesh. Most morphs are equipped with basic mesh inserts (p. 300) that include an implanted radio. For radio ranges, see p. 296.

Fiberoptic Cable: Fiberoptic cables are used to establish wired connections between two devices. Given the ubiquity of radios and the tangled mess wires cause, they are typically only used for privacy (unlike radio communication, fiberoptic signals may not be intercepted) or in areas with heavy radio interference. **[Trivial]**

Laser/Microwave Link: These portable devices are used to establish a tight-beam, line-of-sight communications channel with another laser or microwave link. The range of these transceivers varies widely with environmental factors, but approximates 50 kilometers in atmosphere and 500 kilometers in space (though horizon limits must be kept in mind, being 5 kilometers at ground level on Earth and less on smaller bodies). Lasers are subject to interference from fog, dirt, smoke, and similar visual chaff, while microwaves may be hindered by metallic obstructions. These links may only be intercepted by getting directly in between the beams. Some teams carry a micro version of this system, worn on their person, allowing line of sight intra-team communications that cannot be intercepted like radio. **[Moderate]**

Radio Booster: This device boosts the range and sensitivity of short-range radios, like those from implants, ectos, or microbugs. The booster must be with the shorter-ranged device's range (or directly linked via fiberoptic cable). It will repeat any transmissions received from that device, but at its extended range of 25 kilometers in urban areas (250 kilometers remote areas). Broadcasts from a radio booster are easy to receive by anyone looking for broadcasts (see *Wireless Scanning*, p. 251), though transmissions may be stealthed (p. 252). Boosters are commonly used by characters traveling far from habitats or other civilized regions. **[Low]**

Neutrino Communicators

Neutrinos are particles that can pass through any solid matter with ease and are impossible to block. As a result, they make an ideal medium for communications. Unfortunately, they are also easy to intercept. Even a tight beam of neutrinos sent between two locations can be intercepted simply by placing another receiver behind the location the broadcaster is sending to. Neutrino communicators require a large power plant to power the high energy particle interactions required to generate the neutrino broadcast. Neutrino receivers are also relatively large, with the smallest occupying 100 cubic meters. In most cases, neutrino communicators are designed to broadcast neutrinos in all directions, though tight-beam transmissions are also possible. Quite often neutrino communications take advantage of quantum farcasting for security.

Neutrino Transceiver: This transceiver is capable of generating and receiving neutrino signals at a range of at least 100 astronomical units. It is large, with a size of 8 cubic meters (in a cube 2 meters on a side), but they can be loaded onto large vehicles. To function, it must be connected to a large power plant, such as one found in habitats or large spacecraft. The cost and size of this device includes the computer necessary for quantum farcasting. **[Expensive]**

Quantum Farcasters

Quantum farcasters are special computers designed to protect a communications channel (such as fiberoptic, radio, laser/microwave, or neutrino) with unbreakable encryption. To function, two or more quantum farcaster computers must first be entangled together (on a quantum level) in the same physical location. The farcasters may then be separated, at which point they may continue to exchange encrypted data via quantum teleportation. This data exchange requires a standard communications link (fiberoptic, radio, laser/microwave, or neutrino), and so is limited by the speed of light, but it is a high bandwidth form of communications. The quantum encryption used by these entangled farcasters is unbreakable, and any attempted interception is immediately detected and neutralized. A quantum farcaster may not be used to securely communicate with any farcasters other than the ones it is entangled with.

Because it is exceptionally safe and secure, quantum farcasting via neutrino communications is the primary means of both long-distance communication between habitats and egocasting (p. 276). The neutrino signal cannot be blocked and it can only be decrypted if a character has access to the computer that is sending or receiving the signal.

Miniature Radio Farcaster: Miniature farcasters communicate with each other using standard radio transceivers. As noted above, they may only securely communicate with the other farcasters with which they are entangled. Most miniature farcasters are worn as jewelry or fitted into clothing or other equipment. **[Low]**

Quantum Entangled Communication

The rarest form of communications is quantum entangled (QE) communication. QE communication is instantaneous and works over any distance, but is also very limited. QE communication requires pairs of entangled particles known as qubits. To use QE, large number of pairs of qubits are created and then separated from each other. Millions of these separated pairs of particles are stored in special containers known as qubit reservoirs. If two QE communicators each have a qubit reservoir containing qubits that are each entangled with qubits in the other communicator's qubit reservoir, then characters can use the two QE communicators to commutate with one another instantaneously. Characters can use QE to instantly communicate between any two locations, even if one character is in the solar system and the other has passed through a Pandora gate and is standing on a planet 500 light years away.

Each bit of data transmitted between these two QE comms uses up one qubit. Once all of the qubits are used up, the two QE comms can no longer communicate with each other until they each get a new batch of entangled qubits. Qubits are expensive to produce, contain, and transport, making this an exceedingly expensive form of communication. As a result, extremely high bandwidth communications like full sensory AR and egocasting cannot be performed using QE communication.

Portable QE Comm: This is a handheld FTL communications device. The actual communications unit can be made as small as desired, but must be large enough to connect to or hold a qubit reservoir. Because qubit reservoirs are relatively large and must be replaced, they are rarely implanted. Some miniature farcasters are designed so that users can also attach qubit reservoirs to enable them to be used for both light speed and FTL communication. **[Low]**

Low-Capacity Qubit Reservoir: Low-capacity qubit reservoirs can be used for 10 hours of high-resolution video conferencing or meshbrowsing and 100 hours of voice or text only communications. **[High]**

High-Capacity Qubit Reservoir: High-capacity qubit reservoirs can be used for 100 hours of high-resolution video conferencing or meshbrowsing and 1,000 hours of voice or text only communications. **[Expensive]**

BUGS AND SURVEILLANCE

Though surveillance technologies are pervasive and easy to come by in Eclipse Phase, secretly obtaining information on someone who wants to retain privacy can be quite difficult. Microbugs, smart dust, and similar recording devices that are all but invisible may be exceptionally easy to put into place, but once they begin actively transmitting, they are easy to to detect (see Wireless Scanning, p. 251). An eavesdropper may attempt to stealth the signal (see Stealthed Signals, p. 252), but this is not guaranteed to work. Once a signal is detected, locating the broadcasting device is usually just a matter of time (see Tracking, p. 251).

Some recording devices attempt to avoid this problem by using miniature quantum farcasters (p. 314), but those are far larger and more difficult to hide. Often the most effective way to acquire discrete information is to plant a surveillance device, set to record but not transmit, and then retrieve it later. While doing this is often difficult and risky, the recording device never reveals its presence by broadcasting and so is more difficult to detect. ■

Covert and Espionage Technologies

These technologies allow characters to acquire protected information and to gain access to places that others try to keep them out of. Many of these devices are mesh-capable and equipped with radios, see p. 296 for radio ranges.

Chameleon Cloak: This loose, poncho-like cloak contains a network of sensors that perceive wavelengths from microwave to ultra-violet. A similar network of miniature emitters precisely replicate the information its sensors receive, making the wearer seem transparent to those wavelengths. A chameleon cloak allows a character to effectively become invisible as long as they are stationary or not moving faster than a slow walk. When worn by someone moving faster, the cloak still provides a +30 modifier to Infiltration Tests to avoid being seen or noticed.

Chameleon cloaks are not effective against radar, x-ray, or gamma-ray sensors. They do hide the character from thermal infrared, however, by absorbing the character's body heat into its heat sink. The cloak can only absorb a character's body heat for one hour before it must emit this heat. Heat emission also requires one hour, during which time the character is easily visible in the thermal infrared spectrum. **[Low]**

Covert Operations Tool (COT): This handheld device is the ultimate in infiltration technology. It contains both smart matter micromanipulators, cutting

tools, and an advanced nanotechnology generator capable of producing nanobots that can bore or cut through almost any material and disable or open almost any electronic lock.

Cutting out a lock or boring a 1-millimeter hole in a wall with a COT requires ((Durability + Armor) ÷ 10) seconds. Cutting out a 1-meter diameter hole in a wall requires ((Durability + Armor) ÷ 10) minutes. These same nanobots can later be used to repair this damage so that it is invisible to any but the most careful and detailed examination.

A COT can easily open any old-fashioned mechanical lock simply by analyzing it and shaping an appropriate key, though this takes a full Action Turn. It can also open electronic locks by infiltrating them with nanobots that influence the lock's electronics, no matter what authentication system the lock uses. Opening electronic locks takes a full Action Turn, but success is practically guaranteed. Opening an electronic lock in this manner will, however, trigger an alarm and/or be logged as an event. For more details, see *Electronic Locks,* p. 291. **[High]**

Cuffband: This smart plastic loop restricts around a prisoner's limbs when activated. If the prisoner struggles, it will tighten more. Cuffbands will inform the user if they are cut or loosened and are electronically-controlled, so the user can release the prisoner remotely. Some cuffband variants including a shock system (treat as a shock baton, p. 334) to zap and restrain unruly prisoners. **[Low]**

Dazzler: The dazzler is a tiny laser system set on a rotating ball. When activated, it consistently spins and emits laser pulses in all directions. These laser pulses are not dangerous, but they detect the lenses of camera systems (including specs, viewers, and bot/synthmorph sensors) and repeatedly zap them with laser pulses of varying strength to overload and dazzle them. For as long as a dazzler is active, any camera system (visual, infrared, and ultraviolet) within line of sight and within 200 meters is blinded. **[Moderate]**

Disabler: This handy device emits an overloading surge that completely incapacitates and disables a synthetic morph or pod (anything with a cyberbrain) when it is plugged into an access jack and activated. The affected cyberbrain will be unable to function until the signal is deactivated, effectively shutting down the ego (or AI). In order to plug a disabler into an unwilling target, the target must first be grappled or a called shot must be successfully made in melee combat. This device does not work on larger synthetic morphs (like vehicles) or on cyberbrainless robots.**[High]**

Fiber Eye: This is a flexible and electronically-controllable length of fiberoptic cable and viewer, which can be worked through cracks, under doors, and around corners to peep unobtrusively. **[Low]**

Invisibility Cloak: This cloak is made of metamaterials with a negative refractive index, so that light actually bends around it, making it and anything it covers invisible. This invisibility works from the microwave to ultraviolet spectrums, but not against radar or x-rays. The drawback is that anything concealed within the cloak can't see out. This is easily overcome by using external sensor feeds (if available) and entoptics to navigate. Alternately, a small piece of anti-cloak, which cancels the cloak's invisibility properties when touched together, can be used to create a small window to peep out of, though this increases the chance of being spotted. Noticing such a window requires a Perception Test with a –30 modifier. **[High]**

Microbug: This device is a tiny camera and microphone 1 millimeter across. It has the visual capabilities of a set of specs (p. 325). It can hear everything within 20 meters and see everything within the same range that is in its line of sight. A microbug can record up to 100 hours of information. Microbugs can be set to broadcast continuously, at set intervals, or only when they receive a special signal. If desired, they can also be set to only record if there is movement or voices in the room they are in. Microbugs have adhesive backs and can stick to almost any surface. Microbugs can also establish their location via mesh positioning or GPS, and so double as tracking devices. To avoid being detected by their radio transmissions, some microbugs are attached to miniature quantum farcasters (p. 314). These microbugs are much larger (1 centimeter) and easy to see, but their transmissions cannot be detected or blocked. **[Trivial, Low for quantum farcaster bugs]**

Prisoner Mask: This hood tightens around the head of a prisoner, blocks all vision frequencies, and engages in low-level jamming in order to prevent any wireless communication via mesh inserts. **[Medium]**

Psi Jammer: This device jams frequencies used by brainwaves within a 20-meter radius. This has no effect on brain functions, but it does prevent any ranged used of psi sleights within this area of effect. **[Moderate]**

Quantum Computer: These advanced devices make use of quantum computation, allowing them to handle extremely large numbers with ease. This makes them especially useful for codebreaking, as noted on p. 254. **[Expensive]**

Smart Dust: This device is a walnut-sized specialized nanobot generator that creates tiny sensor nanobots, each one of which is a tiny sphere the diameter of a human hair. A packet of smart dust nanobots is sufficient to perform detailed surveillance on a large room like an auditorium has a volume of 1 cubic centimeter and contains 3 million nanobots. Each nanobot contains tiny cameras, microphones, a tiny computer, a radio, and chemical sensors, as well as short legs that allow them to walk and climb at a rate of 5 cm per second.

When a character dumps a packet of smart dust in a room, it will cover every surface in the room within 20 minutes, including all furniture and the insides of every drawer and other space that is not airtight. At this point, the smart dust has recorded all data about the room that can be obtained by exceedingly detailed observation, including the DNA of everyone

who has visited the room in the last week or two. The smart dust can then either broadcast a brief, highly compressed signal, or it can send all of its information to a few hundred nanobots that then walk to a pre-arranged destination for pickup and downloading by their user. The user need only find a single nanobot with a nanodetector to acquire the information obtained by the smart dust. If ordered to do so, the remaining nanobots can either power down and await further orders or self-destruct in a fashion that turns them into a tiny amount of dust made mostly of metal and silicon. **[Moderate]**

Traction Pads: This set of specialized fingerless gloves, shoes, and kneepads is designed to emulate the pads on geckos' feet. Characters can support themselves on a wall or ceiling by placing any two of these pads against any surface not made from a material specially designed to resist such devices. Characters can climb any surface and move easily across walls and ceilings that can support their weight (+30 to Climbing Tests). In addition to climbing, these devices are also very popular in zero-g environments. Wearing this item does not impair the user's agility or manual dexterity. **[Low]**

White Noise Machine: This small and wearable device generates masking sounds that protect a conversation from being audibly recorded or overheard by anyone not in the immediate vicinity. **[Trivial]**

X-Ray Emitter: This device is designed to be used with either the enhanced vision augmentation (p. 301) or specs (p. 325). It emits a focused beam of low-powered x-rays that allows the user of either device to both see and see through most objects using backscatter x-ray radiation (p. 303). This allows the character to literally see through walls and into containers, including ones made of metal. **[Low]**

DRUGS, CHEMICALS, AND TOXINS

In *Eclipse Phase,* the transhuman desire to enhance the body and mind—especially with chemicals—merges right into humanity's popular pastime of recreational substance abuse. Drugs of all kinds, whether they be chemical, nano-based, or electronic, are not only popular but widespread. While advances in biotechnology have eliminated many of the side effects that once plagued drug users, transhuman bodies remain complicated environments, and so side effects (especially with long-term use) are still a factor. Additionally, addiction is always a consideration for anyone who gets comfortable with popping the same pills too often, though there are also drugs for addiction of course

Drug descriptions include benefits, side effects, noticeable signs that a person is using the drug, addictiveness, and effects from long-term use). Descriptions also include the drug's Duration and its Addiction Modifier (see *Addiction and Substance Abuse*).

SUBSTANCE RULES

These rules explain how to handle drugs and toxins.

CLASSIFICATION OF SUBSTANCES

Substances fall into four categories:

Chemicals: These are pharmacologically-active small chemical compounds (toxins, pharmaceuticals, chemical drugs) that have been produced by chemical synthesis, nanotech fabrication, or enzymatic biosynthesis in (transgenic) organisms. They include naturally-occurring drugs from known species of (exo-)flora and fauna, endotoxins produced by biological organisms, enhancements of endogenic substances (designer drugs), and de novo developments designed for a specific medical or recreational application. Chemical drugs affect only biological morphs and pods.

Biologicals: These include peptides, hormones, and biologically-based substances like biotoxins, bacteria, and viral organisms—drugs devised or based on naturally-occurring endogenic biological substances. This category also includes infectious biological organisms that can produce drug-like effects, like virii and bacteria. Biologicals affect biomorphs and pods but not synthetic morphs or infomorphs.

Nanodrugs: These are temporary nanobot colonies programmed to create a certain effect. While nanobots are generally able to target or infect all morph types except infomorphs, exactly which morphs are affected usually depends on the pre-programmed effect (i.e., whether it targets a biological or mechanical mechanism).

Electronic: Electronic drugs include software and technology that affect the brain directly, such as manipulative XP programs or retro-tech like transcranial magnetic stimulation or cranial electrotherapy. It also includes narcoalgorithms—programs that reproduce drug-like effects for AIs, infomorphs, and egos residing in cyberbrains.

APPLICATION METHODS

There are number of vectors by which a substance may be applied to a morph.

Dermal (D): This drug or toxin is absorbed via the skin (or exterior hull with some nanotoxins) as either a gas, liquid, or solid (e.g., paste). Slap patches and slap bands are commonly used, loaded with the chemical DMSO, which transfers the drug through the skin.

Inhalation (INH): This is a gas that is breathed into the lungs or snorted nasally. Used for inhalers, aerosols, powders, and gas grenades/seekers.

Injected (INJ): This liquid is applied via either an intramuscular or intravenous injection. Used for needles and piercing weapons.

Oral (O): This is a liquid or solid that is absorbed through the stomach or oral cavity (eating or drinking). Used with pills and liquids.

Drug Effects

If a character is exposed to a drug via its method of application—for example, they pop a pill, slap on a dermal patch, are soaked with a splash grenade, breathe in gas, or get stabbed with a coated weapon—then they are subject to the drug's effects. The onset time determines how long these effects take to kick in, and the duration determines how long they last.

While there is no resistance test to ignore a drug or toxin's effects once exposed, in some cases (especially toxins) a test might be called for to determine the *severity* of the effects.

Unless otherwise noted or specifically overridden, medichines (p. 308) will protect a character from drug/toxin effects (but not nanodrugs/nanotoxins). Enhancements like toxin filters (p. 305) may also impede a drug's effect or provide complete resistance. If an antidote is taken in advance or before the effects kick in, the drug will not work.

Addiction and Substance Abuse

Some drugs are addictive, either physically (affecting the morph) or mentally (affecting the ego)—and sometimes both. Every time a character uses the drug (or after an appropriate amount of use, as determined by the gamemaster), they must make a WIL x 3 Test to avoid addiction. Each drug has an Addiction Modifier that will modify this test.

Failure indicates that the character has become addicted—they immediately acquire the Addiction negative trait (p. 148). Addiction is measured in three levels: Minor, Moderate, and Major. The severity determines how often an addicted character needs the drug and what the negative effects of not using the drug are.

An addicted character must continue to make WIL x 3 Tests as they use the drug, as determined by the gamemaster. Failure indicates the character's addiction severity increases.

The negative effects from not using a drug end whenever the character does the drug again. Durability and Lucidity penalties are not damage, but temporary decreases to the character's maximum values; the character immediately regains the lost Durability or Lucidity when they do the drug again.

Addiction is of indefinite duration. To clean up, the character must stay off the drug for 1 week for each level of addiction. Resisting this craving is difficult, and should at least require another WIL x 3 Test, modified by the drug's Addiction modifier. Players and gamemasters are encouraged to roleplay an attempt to kick a habit. Each week the character is off the drug, the addiction drops by one level. When it reaches 0, the character is clean ... though there is always danger of a relapse.

Physical addictions do not carry over to a new morph if the character resleeves, but mental addictions do. If the character uploads and resleeves, the mental addictions persist, and the morph the character leaves behind remains physically addicted. This means that poor or unlucky characters may occasionally find themselves resleeved into a morph that has a physical addiction. In this case, the character is subject to the physical addictiveness of the drug but not the mental addiction, although if they break down and indulge in the drug, they may themself become physically addicted.

Characters who resleeve as infomorphs can remain mentally addicted to a substance despite no longer having a body. The market is always happy to provide, though; a wide variety of narcoalgorithms mirroring the effects of most of the drugs described below are available for infomorphs and AIs. For the infomorph-ported narcoalgorithm version of any physically-only addictive drug described below, consider the Addictiveness to be effectively physical. The character remains addicted as long as they are an infomorph, but they do not remain addicted if they sleeve into a physical morph.

Drugs

The drugs described here are usually (but not always beneficial), and are typically taken intentionally. Drugs and chemicals used offensively are described under *Chemicals* and *Toxins,* both on p. 323.

Note that the drugs here are just a representative sampling. There are thousands if not millions of drugs in circulation in *Eclipse Phase*—gamemasters are encouraged to introduce their own, using these as guidelines.

Cognitive Drugs

Nootropics and similar drugs are intended to boost the user's mental faculties.

Drive: This nootropic speeds up left-right brain hemisphere communication, stimulates idea production, and improves concentration, with no usual side effects. Users receive a +5 bonus to COG while the drug lasts. **[Low]**

Klar: Klar boosts alertness and enhances clarity and perception. Users report a feeling of being "elevated" to a higher level. They receive +5 INT while the drug lasts. **[Low]**

Neem: Neem is a mnemonic drug that works by "tagging" experiences and mental input with a set of unique sensations that contribute to the formation of state-based memories. Neem gummy chews come in a variety of fruit flavors shaped like extinct old Earth animals. Neem gives characters a +20 bonus on COG Tests to recall information they learned while on Neem (see *Memorizing and Remembering,* p. 176). The drawback to Neem is that memories they accumulate while under the drug's influence have no emotional association. For example, a character who witnessed something horrible happening to a friend or who had a fight with a romantic partner while on Neem would feel no emotional connection whatsoever to what happened. **[Moderate]**

COMBAT DRUGS

Combat drugs are an easy way of evening the odds in a fight.

BringIt: In some respects more a social than a combat drug, BringIt stimulates massive bursts of aggression pheromones designed to make the user the center of attention in a fight. In combat, opponents within 3 meters of the character not already in unarmed or melee combat with another character must pass a WIL x 3 Test or attack the character using BringIt. The nature of airborne pheromones is imprecise, however, so if the character using BringIt is within 1 meter of another character hostile to the character affected, the affected character may opt to attack the proximate character instead of the BringIt user. Characters using this drug suffer a –20 modifier on social skill tests. **[Low]**

Grin: Grin is an effective opiate and pain suppressant. Users may ignore the –10 modifiers from 2 wounds (not cumulative with similar effects), and in fact may not even be aware they are injured. Grin users suffer from tunnel vision, however, and so suffer a –10 modifier on Perception Tests. **[Low]**

Kick: Kick is a strong stimulant that increases the user's response time and puts them on edge. The character gains +10 REF and +1 Speed for the duration of the drug. Characters under the influence of Kick are twitchy, however, reacting in a jumpy, cat-like fashion to sudden or unexpected stimuli. At the gamemaster's discretion, they must make a WIL x 2 Test or react without thinking towards unexpected noises or other surprises. Long-term users suffer –5 COO. **[Moderate]**

MRDR: MRDR is a straightforward and brutal combat drug. It increases pain tolerance, speed, and strength. The character receives +10 SOM, +1 Speed, +10 Durability, and may ignore the –10 modifier of one wound. Any damage incurred while under the effects of the drug is taken from the bonus Durability first. MRDR users are easily identifiable by the broken blood vessels in their eyes, tense posture, and visible tension in the muscles of the face, arms, and legs. Long-term users suffer –5 SOM. **[Low]**

Phlo: Phlo increases alertness and coordination, making the user more graceful and nimble in a fray. The character gains +5 COO and +10 on Perception Tests for the duration of the drug. Everything feels possible to a character on Phlo, and so they are vulnerable to being goaded into actions that might be foolish or dangerous (apply a –10 modifier to appropriate Social Skill Tests). **[Moderate]**

HEALTH DRUGS

Pharma-foods that boost the consumer's health and physical state are common.

Bananas Furiosas: This drug reverses some of the effects of de-ionizing radiation on the cells of the body. Although a pill form is available, it most commonly comes in large bunches of bright orange-red bananas. Bananas reduce the severity of a radiation dosage (gamemaster determines effect). **[Low]**

Comfurt: This tasty yogurt treat blocks stress hormones, stabilizes mood, and relieves anxiety, allowing them to ignore the effect of 1 trauma and temporarily boosting Lucidity by +5. Any stress suffered while the drug is in effect is taken from the bonus Lucidity first. Comfurt also provides a +10 bonus when resisting attempts to manipulate the user's emotions. Excessive use of Comfurt can lead to chronic itchiness caused by histamine release. **[Low]**

Recreational Drugs

These drugs compete with petals (p. 321) and black market XP for wasting people's time and lives away.

Buzz: This gene-modified variant of BZ is an odorless, invisible, extremely powerful hallucinogen. Users or affected characters will undergo extremely realistic hallucinations for the duration, and may even "share" hallucinations with other affected characters. Characters will suffer a –30 modifier to any tests to remember what occurred while under the influence. **[Moderate]**

Mono No Aware: Taken from the Japanese term for sadness at the ephemerality of worldly things, this drug, typically ingested as a tea, is a depressant that induces a meditative state. Mono No Aware gives the character a +10 bonus on Art and Sense Tests. With frequent use, Mono No Aware reacts with pigments in the skin to create a pallor with a slight bluish tinge, even in darker-skinned morphs. **[Low]**

Orbital Hash: Good ol' reefer—but grown in space using powerful lighting and post-singularity hydroponics. Because space is at a premium in habitats and scum barges, blocks of hashish are the preferred mode of transport and delivery. However, for the wealthy and on planets, buds in leaf form are not uncommon. Hash allows the character to ignore the effects of 1 trauma, but inflicts a –10 penalty on all memory-related tests and Knowledge Skill Tests. Hash users exhibit bloodshot eyes, lethargic behaviors, and the munchies. **[Low]**

Social Drugs

These social lubricants affect the user's interactions with others.

Alpha: Alpha is a more subtle version of BringIt, popular with hypercorp execs, street thugs, and anyone else who wants to come across as a domineering asshole. The pharm designer who invented it had a retro sensibility (and maybe a sick sense of humor); Alpha is typically synthesized as a sparkling white powder designed to be snorted. Alpha stimulates production of threat pheromones, but less bluntly than BringIt. Alpha imparts confidence, a feeling of power, and alertness. Users can function without sleep for 4 days, after which point they need to catch up with at least 4 hours of sleep (remember morphs with basic biomods require less sleep). Dosed characters receive a +20 modifier on Intimidation Tests and +10 on Persuasion and Networking Tests where attitude is a factor (gamemaster discretion). These bonuses only apply to characters within 2 meters of the Alpha user.

On the downside, alpha users are impatient, unfocused assholes. At the gamemaster's discretion, Social skill modifiers may be reversed to penalties with certain types of people. Additionally, Alpha users suffer –10 on all COG skill tests related to memory

DRUGS

	TYPE	APPLICATION	ONSET TIME	DURATION	ADDICTION MODIFIER	ADDICTION TYPE
Cognitive Drugs						
Drive	Chem	O	20 minutes	8 hours	—	Mental
Klar	Chem	O	20 minutes	8 hours	—	Mental
Neem	Chem	O	20 minutes	12 hours	—	Mental
Combat Drugs						
BringIt	Bio	Inh, Inj, O	1 minute	15 minutes	+10	Physical
Grin	Chem	Inh, Inj, O	3 Action Turns	3 hours	–10	Physical
Kick	Chem	Inh, Inj, O	3 Action Turns	2 hours	–10	Physical
MRDR	Chem	O	20 minutes	1 hour	–10	Physical
Phlo	Chem	O	20 minutes	1 hour	–10	Physical
Health Drugs						
Bananas Furiosas	Chem	O	20 minutes	1 day	—	—
Comfurt	Bio	O	20 minutes	12 hours	–10	Mental
Recreational Drugs						
Buzz	Chem	Inh, O	1 hour	36 hours	—	Mental
Mono No Aware	Chem	O	20 minutes	8 hours	–10	Mental
Orbital Hash	Chem	Inh	3 minutes	3 hours	—	Mental
Social Drugs						
Alpha	Bio	Inh	1 minute	2 hours	–10	Mental
Hither	Bio	D	1 minute	6 hours	–10	Physical
Juice	Chem	O, Inh	20 minutes	8 hours	—	Mental

and coherent or logical thinking. Long-term users may suffer the COG penalty even when not on the drug; on it, they may be worse. [**High**]

Hither: Want to ooze sexy like a pleasure morph on a hot tin roof? For those desiring that slinky je-ne-sais-quoi, Hither is the tool. Hither is a clear, slippery gel, sometimes with a faint, musky, floral scent. Hither is applied to parts of the body with large concentrations of sweat glands, where the skin quickly absorbs it. Hither is a mild euphoriant, imparting a feeling of confidence and you-know-you-want-it-ness to the user. It also stimulates abundant production of lust pheromones. The character gains a +10 bonus on Persuasion Tests against targets who are possible to seduce. At the gamemaster's discretion, this extends to Deception, Impersonate, and Networking Tests. [**Low**]

Juice: This potent anti-depressant makes it almost impossible to have bad feelings or negative thoughts. The character is unnaturally happy—often irritatingly or strangely so. The character receives a +30 bonus against fear or attempts to manipulate their emotions in a negative direction, but is also likely to act inappropriately, like giggling over the massive amount of spilled blood or cheerfully changing the subject to inane topics when someone else is freaking out. [**Low**]

NANODRUGS

Nanodrugs are temporary nanobot infestations that apply a specific effect.

Frequency: Frequency (or Freeq) is a nanodrug designed as a tool for scientific visualization. It releases a small swarm of nanobots into the character's bloodstream that settle in the epidermis, where they act as sensors of electromagnetic radiation. This sensory input is then injected into the character's visual and tactile sensoria, hitting the user with a sequence of novel stimuli, typically a light show or weird tactile sensations. Aside from its recreational uses, Frequency is good at picking up on localized field radiation with a standard Perception Test. A character can take advantage of this to spot sensors and hidden electronics. Similar to now-obsolete 20th-century hallucinogens like LSD and psilocybin, however, a Frequency trip can be disorienting and upsetting (the gamemaster should apply any modifiers, mental stress, or even trauma as they feel appropriate). Characters typically experience a period about 1/3 of the way through their trip in which sensory input is extremely intense; during this period, which usually lasts about 2 hours, they are unable to read. [**Moderate**]

OTHER NANODRUGS

Nanodrugs have the capability of making fundamental changes to a body's biochemistry and mental state. The potential effects are too numerous to list, but gamemasters should consider allowing nanodrugs that temporarily apply certain traits, such as Brave, Direction Sense, Math Wiz, Pain Tolerance, Psi Chameleon, Psi Defense, Situational Awareness, Tough, Feeble, Frail, Low Pain Tolerance, Mental Disorder, Mild Allergy, Neural Damage, Psi Vulnerability, Severe Allergy, Timid, VR Conditioning, VR Vertigo, Weak Immune System, or Zero-G Nausea. Similarly, the nanodrug could force the character into a particular mental emotional state, such as a bad mood, edginess, contentment, or overconfidence. Gamemasters are encouraged to experiment with different possibilities and effects. ■

Gravy: Gravy assists characters in acclimating to high gravity environments. It comes in a variety of flavors and is often added as a sauce to food. For Gravy to be 100% effective, the character must begin using it in advance. Reduce penalties for high-gravity acclimation by 20. [**Low**]

Schizo: Schizo is a nanodrug that mirrors the effects of paranoid schizophrenia. It is popular in some hyperelite social circles as a truly daring and intriguing experience. A dose of schizo looks like a disposable antique razor blade. Making an incision in the skin releases a swarm of nanobots that travel to the central nervous system and induce the effects of the drug. While in effect, the character is severely paranoid and hears voices. How this plays out is at the discretion of the gamemaster, but should include irrational fears, unusual compulsions based on the instructions of the voice or voices, and a strong possibility that the character will behave in a violent or destructive fashion. The character may make WIL x 3 Tests to avoid violent acts against objects or strangers. Friends and trusted acquaintances are probably less likely to be targets of violence (+30 modifier to avoid hurting people the character cares about or destroying important possessions). Note that the character's muse is unaffected by Schizo and can make efforts to babysit the character. Characters who take Schizo suffer 1d10 mental stress. [**Low**]

NANODRUGS

NANODRUGS	TYPE	APPLICATION	DURATION	ADDICTION MODIFIER	ADDICTION TYPE
Frequency	Nano	Inj, O	8 hours	–10	Mental
Gravy	Nano	Inj, O	special	—	—
Petals	Nano	O	2 hours–1 day	+10 to –20	Mental
Schizo	Nano	Inj	1 day	—	Mental

SAMPLE PETALS

A few examples of Petal experiences:

FORGOTTEN HAND

One of the character's hands detaches and makes a run for it. The character is conscious and able to interact normally with the real world, but they cannot perceive the "escaped" hand and firmly believe that it's getting away. The hand will lead the character a merry chase, but at some point, a new hand appears on the character's wrist. It may be glittery and opalescent, demonic and clawed, or bestial. Eventually, after an hour or two, the character will catch up to their hand, but to get rid of their new hand and re-attach the old, they must answer cryptic questions posed by a gnome-like being.

DARKLY SELVING

This petal is believed to achieve many of its effects by connecting to the mesh, where an AI observes and controls some of the event flow, and only works for multiple trippers. Like Forgotten Hand, it works by overlaying AR perceptions on the real world, but because of the effects, it's highly inadvisable to take in places where any non-trippers will be present. Darkly Selving creates an epsilon fork of each character tripping and sleeves the fork in an infomorph that looks like a demonic version of themself, using visual input from the character's co-trippers. AR overlays cause the characters to perceive themselves as angelic beings, while the real-seeming demonic infomorphs appear as AR overlays on their real world perceptions. What happens next varies, but generally both the characters and their forks are subjected to a series of strong chemical and narcoalgorithmic stimuli, ranging from Hither-like effects to massive doses of MRDR (or sometimes both). The effects directed against the forks are generally much more intense. The objective—hinted at via environmental clues—is to merge with one's fork, which can be accomplished in a variety of ways, ranging from hunting them down and eating their heart to solving a puzzle or reaching a goal before their forks can.

DELPHINIUM SIX

The last and rarest in a series of petals, Delphinium Six is the Grail of petal users, a supposedly transcendental experience that might not even exist. Delphinium One is scarce, Two and Three are quite rare, Four is an amazing find, and Five and Six are only rumors. Hints of what Six might hold are based largely on extrapolation from the little that is known about the lower-numbered petals. The following facts are generally accepted. It is a group experience, but not all members of the tripping group are rewarded equally. It is intensely surreal, yet in a purposeful way, as are all of the Delphinium series. It concludes the loosely-built narrative of a drugged-out version of a fairy tale princess and her quest for enlightenment begun in Delphinium One, replete with strange omens and mythological creatures. Rumors of what the ending might hold are more fanciful, and range from the trippers being resleeved in god-like infomorphs to them being trapped forever in an ego prison. Delphinium Six is completely virtual, leaving the characters comatose for the duration, and probably lasts a long time, perhaps 40 hours. ■

PETALS

Petals is a term for a type of narrative hallucinogen, a nanodrug that hijacks the senses and takes the user on a game-like, highly immersive trip. Known by a myriad of intriguing names—Forgotten Hand, Darkly Selving, Inquisitive Green, to name a few—Petals are post-Fall society's heroin—the drug of choice for the desperate and fucked. Petals almost always appear as nanopharmaceutical flowers, potted or with a nutrient pack attached to the stem. Plucking and swallowing the petals from the flower triggers the effects immediately. Flowers have 5-10 petals. Multiple users may share the experience if they take the Petals within 1 minute of the first one being plucked; after this all petals remaining on the flower fade to translucent white and become inert.

Petal experiences are like entire scenarios in and of themselves. Some take place entirely in the user's mesh inserts (the user must cede control of their implants voluntarily; if they do not, the drug has no effect other than producing very low-intensity LSD-like visual hallucinations), taking control of the character's entoptic displays, linking to secretive mesh servers and other trippers, and invading the character's sensorium with AR "hallucinations." Others put the character into a near-comatose state during which they go on a head trip. Normally there is some kind of well-developed theme or plot to a Petal experience, although in some cases they just experience a stream of images.

Though most societies seek to suppress Petals, new ones appear constantly, fueled by a persistent subculture of crafters and users. Petalcrafters view their work as an art form (or at least as really good entertainment), and the better Petals are lovingly crafted, hauntingly beautiful experiences—even if they're also terrifying. The subculture of Petal use ranges from casual users who occasionally do an easy, short-duration flower to hardcore addicts who spend much of

their time not on Petals trying to hunt down the most intense and esoteric varieties. From this subculture comes a lot of information on what various Petals look like and their effects. Because Petals combine custom nanobots with tailored chemical payloads and sometimes connections to mesh servers, duplicating them using fabricators is impossible, leading to an active market of crafters, dealers, and traders.

Petals sometimes contain easter eggs and rewards, called "sweets" by petal users. Getting the sweets usually requires fulfilling certain conditions within the trip, such as correctly answering questions or fulfilling goals. Typical sweets include skillsofts, new clothing or product designs, and custom infomorph sleeves.

On the negative side, some Petal trips go bad, inflicting 1d10 mental stress or more on the user. Perhaps worse, some Petals are loaded with malware that takes over the user's mesh inserts and worse—some sentinels even whisper of Petals carrying strains of the Exsurgent virus. **[Trivial to High]**

Narcoalgorithms

Narcoalgorithms are software programs that simulate the effects of drugs on biological bodies. Almost all bio, chemical, and nano drugs can be replicated as narcoalgorithms, with corresponding effect (gamemaster discretion). Narcoalgorithms may be run by infomorphs, egos encased in cyberbrains (pods and synthmorphs), simulmorphs, and even AIs.

DDR: Originally crafted by prankster hackers and distributed as a virus, DDR (for "Dance Dance Robot") triggers impulses in the target's motor control circuits. Primary targeting robot AIs, the effect is that targets "dance" in jerky, automated movements. Pleasure receptors are also activated so that dancing—and movement of any kind—feels good. Different software variants invoke different motions and styles. The target suffers a –20 modifier on other actions while dancing, but the dancing may be overridden with a WIL x 3 Test. **[Low]**

Linkstate: This software actually connects the user to a peer-to-peer network, where it randomly connects to other linkstate users and samples a bit of their XP feed and randomly accessed memories—typically just enough to provide context, but not enough to acquire private personal details. These inputs are spliced together, their emotional inputs amplified, and then the entire package is spiked with some hormonal circuit triggers and artificial synaesthesia. The effect is a mind-blowing mixed sampling of people's lives, mashed together in a sensory soup, that hits the mind with a euphoric rush. Linkstate users are catatonic while under the effects (typical sessions run 3-4 hours), but afterwards they often report that they have flashbacks of events in other people's lives. **[Low]**

Chemicals

Atropine: Though poisonous in large doses, atropine is an effective antidote against nerve agents like BTX^2 and Nervex. Easily synthesized in a maker, atropine will avert the effect whether taken soon before or after dosage by a nerve agent. **[Trivial]**

DMSO: This chemical acts as a carrier, allowing other chemicals to be absorbed through the skin. It allows any chemical agent to be applied dermally. **[Trivial]**

Liquid Thermite: Similar to scrapper's gel, liquid thermite comes in a gel form that is easily applied under all environmental conditions (by the nature of its chemical reaction, thermite is oxygenated and will burn underwater or in space). It is ignited with an electric charge, burning at temperatures exceeding 2,500 degrees Celsius and melting through whatever it is touching. Liquid thermite inflicts 3d10 + 5 DV per Action turn to whatever it is touching. Armor will also be burnt through, offering no protection once the full Armor rating has been reached. **[Moderate]**

NotWater: NotWater is an effective liquid fire retardant that does not get objects wet, no matter how absorbent they are—it simply beads up and slides right off. **[Trivial]**

Scrapper's Gel: This goo turns into a potent acid when given an electrical charge. It comes in a gel-like state and may be smeared like jelly, and may even be used in space. In acid form, scrapper's gel does 1d10 + 5 DV per Action Turn to anything it touches, unless the material has been treated against acid. Armor will protect against this acid at first, but the acid will eat through the armor, so that it will no longer protect after its full armor value has been reached. **[Low]**

Slip: This liquid is almost entirely frictionless. When spread around an area (commonly used in splash grenades), anyone attempting to walk or run on the affected surface must make a COO Test or fall down. Likewise, any coated surface becomes extremely hard to grip onto, requiring a SOM Test to hang on. Anyone attempting to grapple a slip-soaked character suffers a –30 modifier. **[Low]**

Tracker Dye: This liquid is colorless at normal light but becomes recognizable under pre-specified different wavelengths (such as infrared or ultraviolet). **[Trivial]**

Toxins

Chemical warfare involves using the toxic properties of biological and chemical substances to kill, injure, or incapacitate an enemy. Note that an antidote can be constructed for most toxins if a sample is acquired and an appropriate Medicine or Academics Test is made. This is considered a Task Action with a timeframe of 1 hour. These toxins only affect biomorphs; synthmorphs are immune.

BTX : BTX-squared (also called Frog Bite) is a genetically-enhanced variant of the extremely potent cardiotoxic and neurotoxic batrachotoxin. It leads to fast paralysis and cardiac arrest that usually kills the target within a few Action Turns. Affected characters suffer 2d10 + 10 damage a turn for 3 Action Turns; medichines reduce this damage by half. They must also make a SOM x 2 Test (+30 with medichines) or be paralyzed for 1 hour. **[High]**

CR Gas: This potent incapacitating agent causes eye twitching and temporary blindness, severe coughing and breathing difficulty, skin irritation, and panic. Affected characters suffer 1d10 ÷ 2 damage, a –30 modifier to sight-based Perception Tests, and a –20 modifier to all other actions for 20 minutes (5 minutes if the character has medichines). **[Low]**

Flight: This drug is derived from human pheromones released due to fear, and is intended to instill alarm or even terror in the character. Affected characters must make a WIL x 3 Test (+30 with medichines) or suffer a panic attack, inflicting 1d10 stress. Dosed characters also suffer a –30 modifier for resisting intimidation or fear-based emotional manipulations. Flight affects last for 1 hour (5 minutes with medichines). **[Low]**

Nervex: Derived from deadly nerve agents like cyclosarin, VX, and novichok, this genetically-modified toxin is deployed as a colorless, odorless gas that turns safely inert 10 minutes after deployment. It causes involuntary contraction of the muscles, seizures, and death by respiratory failure. One minute after exposure, the character must make a SOM Test or be incapacitated by seizures, paralysis, or nausea and vomiting; unaffected characters still suffer a –20 modifier to all actions. After 10 minutes, the character will die unless an antidote (such as atropine, p. 323) is applied. Characters with medichines suffer the initial effects, but recover after 5 minutes. **[High]**

Oxytocin-A: A genetically-improved variant of oxytocin, this drug induces trust in the recipient. Drugged characters suffer a –30 modifier on all WIL and Kinesics Tests where trust is a factor. Medichines provide immunity. **[Low]**

Twitch: Twitch is a convulsive agent, a nonlethal nerve gas. Affected characters must succeed in a SOM Test (+30 with medichines) or become incapacitated with severe muscle tremors. Unaffected characters still suffer a –20 on all actions. The effects of Twitch last for 10 minutes, 5 if the character has medichines. **[Low]**

NANOTOXINS

Disruption: This nanotoxin attacks the myelin sheath on nerves, disrupting nerve impulses and inflicting symptoms of multiple sclerosis. Every hour the morph suffers a –5 modifier to COO, REF, and COG. If any aptitudes are reduced to zero,the morph is effectively paralyzed and catatonic. **[Moderate]**

Necrosis: Necrosis nanobots attack the walls of cells inside the body, killing tissue. This nanotoxin inflicts 1d10 ÷ 2 damage per Action Turn for one minute, after which the nanobots disable and flush from the body. Necrosis only affects biomorphs. **[Moderate]**

Neuropath: These nanobots are designed to stimulate the pain receptors of a morph on a systemic level to cause agony and impairment. While most neuropaths target biological receptors, variants are available that induce comparable (phantom) pain stimulations in the cyberbrains of synthmorphs to create an equivalent effect. The affected character must succeed in a WIL x 3 Test or become incapacitated. Even if they succeed, they suffer –30 from the inflicted agony. Any form of pain resistance that allows a character to ignore wound modifiers will negate the neuropath pain modifier by an appropriate amount. **[Moderate]**

Nutcracker: Nutcrackers are nanobots designed to locate, migrate, and decompose the synthdiamond case of a cortical stack within a morph by attacking its crystal lattice. This process takes approximately 6 hours, after which the cortical stack is destroyed. These nanobots also attack the cortical stack's connections to the (cyber)brain and brain-mapping nanobots. After 1 hour, the victim will be aware that their cortical stack is threatened. After 3 hours, all connections will be severed and the cortical stack will no longer be able to back up the character. **[High]**

PATHOGENS

A pathogen is an infectious biological agent that causes disease or illness to its host. While natural pathogens rarely strive to kill their hosts, germ warfare programs revived during the Fall—or instigated by the TITANs—sought to modify and use pathogens as a weapon of war. The ideal characteristics of lethal biological agents are high infectivity, high potency, availability of vaccines, and delivery as an aerosol. Most biomorphs are immune to standard pathogens thanks to their basic bio-mods, and medichines will protect against most others. However, even these defenses may not protect against diseases left by the TITANs or a new terrorist cell's biowar bug. It is largely recommended that pathogens be handled as a plot device, rather than an active threat to the characters. Pathogens have no effect on synthmorphs.

Degen: Characters exposed to this degenerative neurological disease must make a DUR x 2 Test or become infected. Medichines will defeat the disease, but others will not show signs of infection for 1 week, when the symptoms of a rapidly progressing dementia will become clear: memory loss, personality changes, and hallucinations. If untreated, Degen will progress for another week with more serious symptoms, including speech impediments, jerky movements, loss of balance and coordination, and even seizures. This is reflected by a 5 point loss in all aptitudes per day (after the first week). When any aptitude reaches 0, the character dies. Degen is notorious for its effect in corrupting cortical stack backups before infection symptoms manifest. **[Expensive]**

Trigger: Trigger is a designer virus that selectively targets and infects mast cells to trigger a hyper-allergic reaction. The resulting anaphylactic shock due to systemic vasodilatation (associated with a sudden drop in blood pressure) and bronchial swelling (resulting in constriction and difficulty breathing) usually leads to death in a matter of minutes after onset, if not treated. Infected characters must succeed in a DUR Test (using their current Durability score minus damage) or die quickly. Even medichines have difficulty reacting in time against this virus; characters with medichines must make a DUR x 2 Test to survive. **[Expensive]**

PSI DRUGS

Research into the Watts-MacLeod strain has resulted in several exceptional breakthroughs involving the creation of psi-impacting drugs. Each of these drugs is in the experimental stage, but they are already finding some use among Firewall and similar secretive groupings.

Inhibitor: Inhibitor is a cocktail of neurochemicals that block some brain receptor and transmitter functions in an attempt to reduce psi-waves and block or impair sleights. This drug is commonly used to restrain async prisoners from using their abilities. A drugged character must make a WIL x 2 Test. If they fail, they lose all psi abilities for the drug's duration. If they succeed, they suffer a –30 impairment on Psi skills and all strain is doubled. Inhibitor has an unfortunate side effect of doping the character down, however; apply a –10 modifier to their COG. Inhibitor-influenced characters tend to have a glazed, dopey expression and have difficulty getting excited or emotional. **[High]**

Psi-Opener: Psi-opener drugs are variants of the Watts-MacLeod strain with a temporary effect and which do not permanently alter the user's brain. Psi-opener temporarily imbues the user with the ability to use one particular sleight, regardless of whether or not they have the Psi trait. Each type of Psi-opener is customized for a particular sleight. While primarily intended for non-asyncs, non-asyncs may not possess Psi skills, so they must default to WIL. For this reason, Psi-Opener is often doubled up with Psike-out.

Using Psi-opener is a mind-wrenching experience. Users are occasionally subject to hallucinations (gamemaster discretion). When the drug wears off, it inflicts 1d10 points of mental stress, +2 if the drug imbues a psi-gamma sleight. **[Expensive]**

Psike-Out: Psike-out bolsters an async's psi abilities. Apply a +20 modifier to the async's Psi skill tests for the drug's duration. However, also apply +2 to all strain DVs for the drug's duration. Psike-out is mentally addictive, with an Addiction Modifier of –10. **[Expensive]**

TOXINS

	TYPE	APPLICATION	ONSET TIME	DURATION
Chemical Toxins				
BTX[2]	Chem	D, Inj, O	1 Action Turn	3 Action Turns/1 hour
CR Gas	Chem	D, Inh	1 Action Turn	20 minutes
Flight	Bio	Inh	3 Action Turns	1 hour
Nervex	Chem	D, Inh, Inj, O	1 minute	death
Oxytocin-A	Bio	Inh, Inj	3 minutes	2 hours
Twitch	Chem	D, Inh, Inj, O	3 Action Turns	10 minutes
Nanotoxins				
Degeneration	Nano	Inj, O	Immediate	8 hours
Necrosis	Nano	Inj, O	3 Action Turns	1 minute
Neuropath	Nano	D, Inj, O	3 Action Turns	8 hours
Nutcracker	Nano	Inj, O	Immediate	6 hours
Psi Drugs				
Inhibitor	Chem	Inj, O	3 Action Turns	6 hours
Psi-Opener	Bio	Inj, O	20 minutes	1 hour
Psike-Out	Chem	Inj, O	1 minute	1 hour

EVERYDAY TECHNOLOGY

The following devices are all exceptionally common and can be acquired in almost any habitat. Almost everyone in *Eclipse Phase* either owns these devices or knows several people who do.

Ecto: Ectos are the external version of basic mesh inserts (p. 300), minus the medical sensors. These colorful devices serve as a wearable mesh terminal, PDA, locator, and camera-phone. The devices are flexible (often worn as bracelets), dirt-resistant, self-cleaning, and may be stretched out to increase screen size. They may project holographic displays and are typically equipped with wireless-enabled glasses or contact lenses and decorative earpieces or earrings so that the user may access augmented reality. Given the ubiquity of mesh inserts, ectos are growing less common, but they are still used by bioconservatives, others without implants, and those who prefer to access the mesh via an external device for security concerns. **[Low]**

Holographic Projectors: These devices are capable of projecting high-definition, ultra-realistic three-dimensional images and movies. From a distance (20+ meters), such holograms can be difficult to distinguish as fake, but up close they are easier to see for what they are (+20 Perception Test modifier). Holograms do not appear wavelengths other than visual light, and so are easily identified by anyone with enhanced vision. **[Low]**

Micrograv Shoes: These shoes are equipped with velcro and/or a magnetic system, allowing the wearer to walk normally on appropriate surfaces in micrograv and zero-G environments, rather than floating or bouncing. **[Trivial]**

Portable Sensor: This is a small portable (possibly even wearable) sensor system. The type of sensor must be chosen (for example: infrared, lidar, radar, x-ray). Combined sensor systems are also available, at a cumulative cost. See *Radio and Sensor Ranges,* p. 299. and *Using Enhanced Senses,* p. 302. **[Moderate]**

Smart Clothing: Smart clothing can change its color, texture, and even its cut, taking only a minute or two to transform from a solid color jumpsuit to a plaid party dress or a replica of a pinstriped, late 20th century business suit. More advanced (and expensive) models can also attempt to camouflage their wearers, providing a +20 bonus to Infiltration Tests to avoid being seen or noticed, as long as the wearer is stationary or not moving faster than a slow walk. When worn by someone moving faster, the clothing still provides a +10 modifier. Smart clothing also keeps the character warm or cool, allowing the character to exist comfortably in environments from –40 to 70 C. **[Low]**

Smart Vac Clothing: Just like regular smart clothing, this outfit can also transform into a light vacsuit (p. 333). It also functions as armor with a rating of 2/4. **[Moderate]**

Specs: Specs are vision-enhancing glasses. They deliver sensory data directly into the wearer's visual cortex by connecting with their basic mesh inserts (p. 300), though visual displays are available for bioconservatives and other characters without implants. Specs extend the range of the wearer's vision from terahertz waves to gamma rays (p. 302). Specs include a t-ray emitter (p. 306), however, using x-rays, or gamma rays for visual purposes requires a separate emitter, since neither of these sorts of radiation are common inside habitats, or in any safe environments. Specs have a variable focus equivalent to 5 power magnifiers and provide the wearer with a +10 bonus to all Perception Tests involving vision. **[Low]**

Tools: Tools come in kits (portable), shops (can fit into a large vehicle), and facilities (large, non-mobile). Each set of tools applies to a particular skill, such as Hardware: Electronics or Hardware: Groundraft. **[Low (Kit), High (Shop), Expensive (Facility)]**

Utilitool: This hand tool includes a specialized small nanobot generator. In its basic form, a utilitool is the size and shape of a large fountain pen. It can transform into almost any tool, however, from a wrench, knife, or powered screwdriver to a rotary grinder or pair of pliers. Some inexpensive utilitools are optimized for specialized tasks, like cooking or wilderness survival, but more expensive models become almost any imaginable hand tool. Utilitools are normally mentally controlled using the character's basic mesh inserts. Characters without such implants can control the tool via voice commands and touch controls. Characters using a utilitool gain a +10 modifier to skills involving repairing or modifying devices with mechanical parts, opening locks, disarming alarm systems, or performing first aid. **[Low]**

Viewers: These small and highly advanced binoculars possess all the visual enhancement of specs (p. 325), but also provide 50x magnification. They also include a directional microphone that magnifies sound from the direction the viewers are pointed by a factor of 50. Viewers provide the user with a +30 bonus to all Perception Tests involving vision or hearing for the target they are aimed at. This bonus is not cumulative with bonuses from any other device or augmentation. **[Low]**

NANOTECHNOLOGY

Nanotechnology is the precise manipulation of matter at the atomic level, typically using millions of microscale nanomachines. Nanotechnology transformed manufacturing, enabling new techniques and materials. The advent of nanofabrication—building objects from the molecular level up—transformed economies, allowing people to simply manufacture whatever they needed from raw materials. Nanotechnology is still a growing field, however, and has its limitations. While the TITANs unleashed self-replicating nanoswarms with the ability to transform or destroy anything through the power of geometric growth, such technology remains far beyond transhumanity's grasp.

BASIC NANOTECHNOLOGY

Basic nanotechnology is exceedingly widespread and used throughout the solar system, serving as the primary method of manufacturing for decades. The nanobots of basic nanotech are confined to delicate and specially-maintained environments like the insides of cornucopia machines or healing vats and cannot operate elsewhere.

HEALING VATS

Healing vats were the first type of nanotech medicine developed and remain the most powerful medical devices in common use. With the exception of a few exceptionally deadly nanoplagues, a healing vat can cure any disease and heal any injury. As long as the patient is alive when they are place in the healing vat, they will not only survive, but emerge without a scratch. A healing vat can even take a severed head (as long as it has been stabilized by medichines or nanotech first aid) and regrow an entire body based on the head's genetics. If the patient's body or medical records

HEALING VAT TABLE

INJURY	HEALING TIME
Healing normal damage to a character who has taken 3 or fewer wounds.	2 hours per wound (min. 1 hour for 0 wounds)
Restoring major lost body parts like arms or legs, or healing dying or nearly dead character who has taken 4 wounds.	12 hours per wound
Restoring recently dead character who was placed in medical stasis to avoid death, but who is mostly intact.	1 day per wound
Restoring recently dead character who is placed in medical stasis to avoid death, and who is missing most of their body.	3 days per wound
Augmentation	
Minor implants and bioware, minor cosmetic changes like alterations in skin color, eye color or shape, or hair color, texture or distribution, minor alterations to face shape or body fat distribution.	1 hour
Major brain and neural implants, nanoware or bioware, sex changes, changing height by no more than 5% or weight by no more than 20%.	12 hours
Major physical modifications like adding limbs or radical changes to height and weight.	3 days

contain information about their implants, bioware, or advanced nanotechnology, all of these modifications are also fully restored.

Few people suffer injuries serious enough to require a healing vat. Most are used as a safe and easy way to perform bodysculpting or to install implants or bioware. Healing vats use specialized nanomachines to either alter the patient's body or integrate implants or bioware. One advantage of using a healing vat is that no additional healing time is needed, the patient leaves the vat fully recovered from the augmentation and ready to go. Every hospital, clinic, bodyshop, and augmentation parlor has several healing vats. The time required by a healing vat varies with the severity of the damage it is healing or the extent of the modification being made, as noted on the Healing Vat table, p. 327. **[High]**

NANODETECTORS

Nanodetectors are small devices that suck in air and micro debris in order to scan for and detect nanobots. Given that nanobots are so small, the density of nanobots in the area has a large impact on its success. The nanodetector has a base skill of 30 for detecting nanobots, modified by +30 if an active nanoswarm or hive is present, +0 if a nanoswarm or hive was active recently, and –10 for the presence of nanobots outside of a swarm or hive. Once a nanobot is detected it may be analyzed either by the user or the nanodetector's AI, using Academics: Nanotechnology 30 skill. Nanodetectors are often worn and left on, set to alert the user if a hostile nanoswarm is detected. **[Low]**

NANOFABRICATORS

Nanofabrication machines are universal assemblers that perform almost all of the manufacturing in the solar system. The user loads in raw materials and electronic plans and it can produce literally any manufactured good, from a weapon to an ultralight plane to a hot and delicious dinner. Many nanofabricators come equipped with a library of common-use blueprints (basic foods, standard clothing, common tools, etc.). Other blueprints must either be purchased online, self-programmed, or acquired through some other method (see *Nanofabrication,* p. 284). The largest nanofabrication units are more than 10 meters on a side and are used to produce small consumer goods in bulk as well as building large devices like orbital transfer vehicles.

The availability and legality of nanofabricators varies widely throughout the system. In the inner system and Jovian Republic, cornucopia machines are commonly restricted and sometimes illegal, with licenses only available to hypercorps, military units, and other officials and elites. In these habitats, only more limited fabbers are available to the general populace. Additionally, blueprints are licensed and protected by copyright laws, and many nanofabricators feature pre-programmed restrictions that prevent them from using unlicensed blueprints as well as from manufacturing weapons, explosives, or other restricted items. Among the autonomists of the outer system, however, nanofabricators are commonly accessible, shared by everyone, and unrestricted.

For rules on creating goods in a nanofabricator, see *Nanofabrication,* p. 284.

Desktop Cornucopia Machine: Cornucopia machines (CMs) are general-purpose nanofabricators. The smallest CMs are desk-sized cubes approximately half a meter on a side with a volume of at least 40 liters. They can produce any small object, from tools to well-folded suits of clothing to handguns or a bowl of cereal. It is sometimes possible to assemble larger items, but they must be manufactured in smaller pieces and then assembled (likely requiring an appropriate Hardware Test).

While users can purchase bulk raw materials, CMs also come equipped with a disassembler. The user loads garbage and other objects into the disassembler so that they can be turned into raw materials for the CM. All legally-available disassemblers only deconstruct non-living material. **[Expensive]**

Fabber: Fabbers are specialized nanofabricators, portable and considerably smaller than CMs. There are a wide variety of portable fabbers, including ones that can make any hand tool or small piece of personal electronics, ones that can turn any organic material into food and drink, and ones that can create any drug or medicine as well as bandages and specialized dressings. The most common fabbers have a volume of 4 liters. Larger hand tools and devices are produced as 2 or 3 separate parts that must be fitted together. Like CMs, fabbers also contain miniature disposal units. **[Moderate]**

Maker: Makers are specially-designed to produce food and drink for the user. Raw materials can be provided by the addition of any water-containing liquid and collected biomass like leftover food, grass, dirt, dead animals, or transhuman waste. Some models are built into standard vacsuits. Makers can produce water and various flavored beverages, as well as ration bars or thick pudding-like edible gels. With adequate raw material, a maker can indefinitely provide food and drink for up to three transhumans. Most units, however, have a very limited range of flavors and textures that are widely considered to be fairly bad. Models with a wider and better range of flavors and textures are more expensive, but produce food that is considered adequate or occasionally good. **[Low to Moderate]**

Blueprints: If you want a nanofabricator to make something, you need to instruct the device how to create it from the molecular level up. Such blueprints are available for almost every conceivable item out there. The cost of such blueprints typically equals the cost of purchasing the item, though factors like legality and quality may affect the cost as usual (see *Acquiring Gear,* p. 296). **[One Cost Category Higher Than Item Cost]**

Advanced Nanotechnology

Advanced nanotechnology includes more recent developments. Like basic nanotech, advanced nanotechnology cannot self-replicate but the nanobots can function normally in most environments and are highly resistant to bacterial attacks and other environmental problems. Typical advanced nanotech consists of a generator—known as a "hive"—that produces nanobots as long as it is supplied with raw materials. Every such hive also includes a miniature disassembly unit and/or specialized nanomachines that collect raw materials for the generator. These hives produce nanobot swarms that are set loose to perform some function in the world.

Examples of advanced nanotech include COTs (p. 315), medichines (p. 308), smart dust (p. 316), and utilitools (p. 326), among others.

General Hive: General hives are capable of producing any conceivable type of nanobot with the right blueprints and/or programming. Even at their smallest size they are not really portable, with a minimum size being cubes 30 centimeters on a side and a volume of 25 liters. **[Expensive]**

Specialized Hive: Specialized hives are far more common than general hives, though they can produce only one type of nanomachines (i.e., choose one type of nanoswarm per hive). The smallest specialized hives are approximately the size of a 12-gauge shotgun shell or a large cherry tomato. **[High]**

Ego Bridges

Ego bridges are vat devices used for uploading and downloading minds. See *Backups and Uploading,* p. 268, and *Resleeving*, p. 271. **[Expensive]**

Nanoswarms and Microswarms

Swarms are colonies of nanobots or larger microbots created in a hive, programmed with specific instructions, and then set free to perform a set task. Each swarm is composed of hundreds or thousands of nanobots or microbots, ranging in size from a microbe to a small insect. Nanobots are typically invisible to the naked eye, though they can be detected with a nanodetector (p. 326) or nanoscopic vision (p. 311). Microbots are more noticeable but still quite small, usually the size of a grain of sand or a dust mote, or occasionally as big as a flea. Individual bots in a swarm are directed by nanocomputers, with behavioral routines modeled on biological insect and animal swarms. These swarms stick together and work as a whole, communicating with nanoradios, nanolasers, or chemical cues, and sharing information between each bot in the swarm. Note that nanoswarms don't invade inside living bodies (though they may attack externally)—internal nano is handled by nanoware (p. 308), nanodrugs (p. 321), and nanotoxins (p. 324).

Nanobots and microbots may be designed with all manner of miniaturized propulsion systems (see *Mobility Systems,* p. 310), with the exception of ionic drives. They are powered by tiny batteries or solar cells. Their tiny sensors are very effective at allowing them to identify materials and objects, and so to target discriminatingly. Nanobots or microbots could, for example, be programmed to ignore metal objects, certain types of plants, specific morphs, females, or specific individuals. Swarms may either be released directly from a hive or from pre-packaged programmable canisters.

Swarms must be programmed before they are released. The programming first determines how long the swarm is active. This timeframe is open-ended, though most swarms deteriorate into ineffectiveness after 2 weeks unless they are replenished by a hive. The programming then sets what area the swarm is to occupy. This is also open to interpretation and can vary from "coat this person" to "spread out to a

diameter of 20 meters" to "find the nearest chemical traces and track them to their source." Finally, programming sets any other parameters for the swarm's mission—for example, if it should ignore certain materials, if it should send a report at a predetermined time, or if it should self-destruct into harmless dust when it has completed a certain task.

Programming is generally handled as a Simple Success Test using Programming (Nanoswarm) skill. Failure simply infers that the programming is imperfect, and so the swarm may not operate completely as planned. An actual Programming (Nanoswarm) Success Test is only called for if the swarm's programming is substantially complex or if the character seeks to have the swarm act outside of its usual set functions. The bots in each swarm are specially equipped for the task they are designed for, however, so attempting to drastically repurpose a swarm may be difficult or pointless at the gamemaster's discretion.

Swarms may also be teleoperated, controlled, and/or (re)programmed once they are released, via radio or laser link.

Swarms are treated as a whole. The standard swarm size is enough to cover a 10 x 10 x 10 meter cube, and this is the standard "unit" of swarm released by a canister or hive. Swarms may be larger, but they are treated as individual swarm units. Each swarm has a Durability of 50 and is immune to wounds. Most attacks against a swarm simply inflict 1 point of damage. Area-effect weapons, plasma rifles, and fire inflict 1d10 damage, plasma grenades do full damage. Swarms are not affected by vacuum.

Cleaners: This nanoswarm cleans, polishes, and removes dirt and stains. It may be used on an area, specific objects, or people. Some facilities employ permanent cleaner swarms to keep their area spotless. Cleaners may also be programmed to remove specific toxins, chemicals, or other hazardous substances in order to decontaminate an area. Covert operatives and criminals sometimes use cleaners to eliminate any evidence they may have left at a scene usable for forensics purposes, such as blood, hair, or anything that could be DNA-typed. **[Low]**

Disassemblers: Also known as smart corrosives, these nanobots break down any matter. Their advantage over common acids is that not only are they able to break down any material by using energy to disrupt chemical bonds, but that they can be programmed to take apart certain components while ignoring others, leaving them intact. Disassemblers are a common weapon used against synthmorphs, eating away their components without having to worry about accidentally splashing biomorphs. Upon contact, these nanobots inflict 1d10 ÷ 2 damage (round up) per Action Turn. Accumulated damage counts as a wound when the Wound Threshold is reached. Both Energy and Kinetic armor protect against this damage, but these armors are eaten away as well, so the Armor Value is reduced by the soaked DV. **[High]**

Engineers: Engineer microswarms are used for various construction purposes: erecting walls, digging tunnels, sealing holes, reinforcing foundations, and so on. **[Moderate]**

Fixers: This is the nanoswarm version of repair spray (p. 333). **[Moderate]**

Injectors: Injector microswarms are equipped with tiny needles and a drug payload. A biological target affected by an injector swarm suffers 1 point of damage and the effects of the carried drug, chemical, or toxin. **[Moderate]**

Gardeners: This microswarm is useful for a number of agricultural purposes: killing weeds, planting seeds, trimming plants, pollinating, and even harvesting small items. It may also be programmed to simply defoliate an area. **[Moderate]**

Guardians: Guardians watch for and attack other unauthorized swarms. Guardians inflict 1d10 ÷ 2 damage (round up) on other swarms they come into contact with per Action Turn. **[Moderate]**

Proteans: This nanoswarm is designed to disassemble other materials and objects and to create a single specific, pre-programmed device from the components (much like a specialized nanofabricator). The proteans must be able to scavenge appropriate raw materials (for example, to create a metallic device the nanobots must transform something else made of metal). The construction time takes 1 hour per cost category of the item (1 hour for a Trivial cost item, 2 hours for Low, etc.). **[High]**

Saboteurs: Sab nanobots are designed to infiltrate electronics or machinery and sabotage them in small but difficult to discern ways: severing connections, disabling components, gumming up moving parts, etc. Saboteurs inflict damage on devices similar to disassemblers, but the target is not destroyed and such damage is not immediately obvious. They inflict 1d10 ÷ 2 points of damage to synthmorphs, bots, and other devices every Action Turn. Armor has no effect, but accumulated damage counts as a wound when the Wound Threshold is reached. **[High]**

Scouts: A scout nanoswarm will systematically map and explore an area, collecting samples of all materials and substances it encounters. The samples are carried back to the hive or canister and chemically analyzed. Scouts can also be used for forensic purposes, collecting DNA samples, analyzing chemical residues, and examining other evidence. **[High]**

Taggants: Taggants seek to lodge themselves onto everything in their area of dispersal. Each carries a unique identifier, so that if it is found later, the tagged person or object can be linked back to the point they were tagged. Taggants can be programmed to remain silent, only responding to query broadcasts made with the proper crypto codes, or they can be programmed to broadcast their location back to the deployer via the mesh. **[Low]**

PETS

CREATURE	COG	COO	INT	REF	SAV	SOM	WIL	INIT	SPD	DUR	WT	LUC	TT	SKILLS
Fur Coat	1	1	1	5	1	5	1	12	1	15	3	2	1	—
Smart Dog	5	10	15	15	5	15	10	60	1	25	5	20	4	Fray 30, Freerunning 30, Intimidation 30, Perception 30, Scrounging 30, Unarmed Combat 40
Smart Monkey	5	15	15	15	5	10	10	60	1	20	4	20	4	Climbing 50, Fray 30, Freerunning 30, Infiltration 30, Perception 30, Scrounging 30, Unarmed Combat 30
Smart Rat	5	15	15	15	5	5	10	60	2	5	1	20	4	Climbing 40, Fray 40, Freerunning 30, Infiltration 50, Perception 20, Scrounging 50
Space Roach	1	10	10	15	5	5	5	50	1	5	1	10	2	Fray 30, Free Fall 30, Infiltration 50, Perception 20, Scrounging 50

PETS

These partially-uplifted and bio-engineered animals have rudimentary intelligence and limited communication skills. They make for fine companions and helpers.

Fur Coat: A so-called "fur coat" is outerwear made from a living primitive organism. The creature's skin, fur, or scales are real. The organism is cultivated from transgenic stocks and grown around molds into clothing shapes, often with actual usefulness: polar bear parkas, seal diving suits, porcupine coats, etc. Fur coats are modified with wireless controls and haptic systems, so they can be made to move, shiver, massage, or prickle up on command. **[Low]**

Smart Dogs: Commonly used as discriminatory guardians, smart dogs are sometimes enhanced with combative bioware or cybernetics. **[Moderate]**

Smart Monkey: Commonly used by criminal groups for minor larceny such as pickpocketing, smart monkeys can be useful and intelligent aides. **[Moderate]**

Smart Rats: These upgrades of the common Norwegian rat are clever and dexterous, and they easily fit into a pocket or hood. **[Low]**

Space Roach: Grown to the size of a small dog, these insects are often biosculpted for bright colors and patterns. They are useful for minor janitorial duties. **[Low]**

SCAVENGER TECH

This technology is often employed by gatecrashers, space scavengers, and Firewall teams during missions.

Disassembly Tools: These tools are useful for salvage ops, breaking down wrecks, or dissembling anything from a habitat room to a vehicle or synthmorph. They include plasma torches, laser cutters, pneumatic jaws, and smart tools like spanners and wrenches that can be adopted to a wide array of connections and fittings. **[High]**

Mobile Lab: The mobile lab is a handheld device that contains all different types of sensors to investigate organic and inorganic liquid, gaseous, and solid components (from soil to tissue samples) and compositions. It performs material analysis using different methods of spectrometry and biochemical testing, comparing results to a built-in database of element and compound spectra. Its built in AI comes equipped with Academic: Chemistry 30. **[Moderate]**

Specimen Container: This capsule container is designed to hold samples of any sort (chemical, biological, etc.) in near stasis. It can be programmed to reproduce whatever conditions the user specifies, from cryogenic freezing to extreme heat, or even vacuum or high-pressure atmosphere. **[Low]**

Superthermite Charges: These powerful and highly stable demolition charges are made from a combination of nanometals and metal oxides. A single charge can be used to create an explosive blast inflicting 2d10+5 damage. This charge can be shaped with a successful Demolitions Test, focusing the blast in a particular 90-degree direction (for example, to blow through a door). This triples the damage of the blast in the focused direction; in all other directions, the damage is reduced to 1/3rd (round down). Multiple charges apply a cumulative effect. **[Moderate]**

SERVICES

Anonymous Accounts: These accounts are crucial for anyone who wants to be discreet with their online transactions. See *Anonymous Account Services*, p. 252. **[Moderate]**

Backup: A single, one-time backup without insurance is sometimes all the poor can afford, hoping that they can buy backup insurance later or that someone that cared about them will see to a resleeving. **[Moderate]**

Backup Insurance: In the event of verifiable death, or after a set period of being missing, backup insurance will arrange for your cortical stack to be retrieved and your ego downloaded into another morph. If the cortical stack cannot be retrieved, your most recent backup is used. Most policies require that the holder provide a backup to be uploaded into secure storage at least twice a year. This industry works in a manner similar to insurance underwriting in terms of cost and individuals engaged in high risk professions can expect to pay a premium for the service. Additionally, attempts to retrieve a cortical stack are minimal unless one wants to pay for some extra effort (a thriving industry of paramilitary ego-repo

operatives exists for this purpose). **[Low to Moderate per month]**

Body Bank: People who are egocasting to another station but whom hope to download back into the same body they have before when they return may put the morph on ice for the duration of their absence. **[Moderate per month]**

Bot/Pod Rental: When you need a helping hand or a personal companion for a day or two, renting a bot or pod is often the way to go. **[Moderate per day]**

Egocasting: This is the use of a farcaster to transmit an ego/infomorph. Farcasting is not cheap, and the cost is impacted by factors such as distance to receiver station and priority service (paying extra to get bumped ahead in line). **[Expensive]**

Fake Ego ID: This forged ID will pass in most inner system and Jovian Republic habitats, and sometimes others. **[High]**

Morph Brokerage: Acquiring a new morph is not always easy and is affected by factors such as the type of morph, sought-after enhancements/customizations, and local availability. Numerous brokerage services exist to find you what you need, or close to it. With enough lead-time, it may be possible to grow a pod that closely imitates your morph of choice. A willingness to accept used/traded-in morphs helps to reduce costs. For more details, see *Morph Brokerage,* p. 276.

Psychosurgery: A character can purchase time in an immersive high-fidelity simulspace with expert care from psychosurgeons and AIs in order to cope with derangements and disorders that build up as a result of existing in a transhuman universe. For an additional price the procedure can be time shifted to speed up the relative time within the simulspace. For more details, see *Mental Healing and Psychotherapy,* p. 215, and *Psychosurgery,* p. 229. **[Moderate per month]**

Simulspace Subscription: This will by you access to the simulspace of your choice, whether you want it for a private meeting/vacation or to play the latest and hottest VR game. **[Low (single use/1 day) to Moderate (monthly subscription)]**

Space Travel: Space transport cost depends on a number of factors like distance, quality of lodgings, and how much cargo you're bringing with. At the low end, an intra-habitat shuttle trip within the same cluster, or a trip to or from a planetary body's surface and orbit, is not cheap but affordable **[High]**. Just about anything else is progressively more costly. **[Expensive]**

Software

For information on using software, see the *Mesh* chapter, p. 234.

Programs

These programs can be run on any computerized device.

AR Illusions: These databases of AR clips can be used to create realistic illusions in someone's entoptic display. See *Augmented Reality Illusions,* p. 259. **[Moderate]**

Exploit: Exploits are hacker tools that take advantage of known vulnerabilities in other software. They are required for intrusion attempts (p. 254). **[High]**

Facial/Image Recognition: This program can be used to take an image and run a pattern-matching search among public archives. Similar version of this program exist for other biometrics: gait recognition, vocal recognition, etc. **[Low]**

Firewall: This program protects a device from hostile intrusion. Every system comes with a standard version of this software by default. **[Low]**

Sniffer: Sniffer programs collect all of the transmission that pass to, from, or through the device they are running on. See *Sniffing,* p. 252. **[Moderate]**

Spoof: Spoof is a hacker tool used to fake commands and transmissions, making them seem as if they came from another source. See *Spoofing Authentication,* p. 255. **[Moderate]**

Tactical Networks: These programs allow people in the same squad to share tactical data in real-time. See *Tactical Networks,* p. 205. **[Moderate]**

Tracking: This software is used to track people by their presence online. See *Scanning, Tracking, and Monitoring,* p. 251. **[Moderate]**

XP: Experience playback recordings are clips of someone else's experiences. Depending on the content, some XP (porn, snuff, crime, etc.) may be restricted in certain jurisdictions. Some XP clips are intentionally modified so that their emotive tracks are more intense, giving the viewer a greater thrill. **[Low to High]**

AIs and Muses

Every character starts with a personal muse for free. Many devices also come with pre-installed AIs, capable of helping the user, responding to commands, or even operating the device on their own. Rules for AIs can be found on p. 264.

Below are some commonly available AI programs. Unless otherwise noted, these AIs have aptitudes of 10. These AIs may also be equipped with skillsofts (p. 332).

Bot/Vehicle AI: These AIs are designed to be capable of piloting the robot/vehicle without transhuman assistance. REF 20. Skills: Hardware: Electronics 20, Infosec 20, Interests: [Bot/Vehicle] Specs 80, Interface 40, Research 20, Perception 40, Pilot: [appropriate field] 40. **[High]**

Device AI: These AIs are designed to operate a particular device without transhuman assistance. Skills: Infosec 20, Interests: [Device] Specs 80, Interface 30 (Device Specialization), Programming 20, Research 20, Perception 20. **[Moderate]**

Kaos AI: Kaos AIs are used by hackers and covert ops teams to create distractions and sabotage systems. REF 20. Skills: Hardware: Electronics 40, Infosec 40, Interface 40, Professional: Security System 80, Programming 40, Research 20, Perception 30 plus one weapon skill at 40. **[Expensive]**

Security AI: Security AIs provide overwatch for electronic systems. Skills: Hardware: Electronics 30, Infosec 40, Interface 40, Professional: Security Systems 80, Programming 40, Research 20, Perception 30, plus one weapon skill at 40. **[High]**

Standard Muse: Muses are digital entities that have been designed as personal assistants and lifelong companions for transhumans (see *AIs and Muses,* p. 264). INT 20. Skills: Academics: Psychology 60, Hardware: Electronics 30, Infosec 30, Interface 40, Professional: Accounting 60, Programming 20, Research 30, Perception 30, plus three other Knowledge skills at 40. **[High]**

SCORCHERS

Scorchers are damaging neurofeedback programs used to torment hacked cyberbrains (p. 261).

Bedlam: Bedlam programs assault the ego with traumatic mental input, inflicting mental stress. Victims are overwhelmed with horrific, monstrous, sanity-ripping sensory and emotional input. Each attack inflicts 1d10 SV. **[High]**

Cauterizer: This scorch program rips into the ego with destructive neurofeedback routines. Each attack with a cauterizer inflicts 1d10 + 5 DV on the target ego. This damage is reflected as digitized neurological damage. **[High]**

Nightmare: Nightmare programs trigger anxiety and panic attacks within the victim by stimulating the neural circuitry representing the amygdala and hippocampus. The target ego must make a WIL x 2 Test. If they succeed, they are shaken but otherwise unaffected, suffering a –10 modifier to all actions until the end of the next Action Turn. If they fail, they suffers 1d10 ÷ 2 stress damage and are overcome with panic. This causes them either to blindly flee, have a nervous breakdown, or cower in frozen shock (gamemaster's discretion). This panic episode lasts for 1 Action Turn per 10 points of MoF. **[High]**

Shutter: Shutters target the victim's sensory cortices, inflicting a –30 modifier to one chosen sense. Double this modifier if the attacking hacker scored an Excellent Success. This modifier reduces at the rate of 10 points per Action Turn. **[High]**

Spasm: Spasm programs are design to incapacitate the ego with excruciating pain. Affected targets must immediately make a WIL x 2 Test. If they fail, they immediately convulse, are disabled, and writhe in agony for 1 Action Turns per 10 full points of MoF. If they succeed, they still suffer a –30 modifier to all actions, which reduces at the rate of 10 points per Action Turn. Due to the nature of the delivery, pain tolerance of any sort has no effect. **[High]**

SKILLSOFTS

Skillsofts are used with skillware implants (p. 309).

Standard Skillsoft: These programs provide the character with a rating of up to 40 in a single Active skill. **[High]**

SURVIVAL GEAR

The following gear is often critical to the survival of soldiers, spies, criminals, gatecrashers, emergency service personnel, and others who regularly venture into unsafe or unfamiliar regions.

Breadcrumb Positioning System: This worn device leaves micro "breadcrumbs" behind as the character moves. These devices interact with mesh inserts (or ectos) as long as they are within range (50 meters), allowing the user to map their position in relation to the breadcrumb trail. This is useful in derelict habitats, wilderness, and other areas where there is no local functioning mesh, and is helpful both for mapping and for finding one's way back. **[Low]**

Electrogravitics Net: Also called a safety net, this failsafe system uses electric fields to counter gravity when falling. While the system is not able to actually levitate heavy objects, it will slow down a fall enough that the user can land safely if the gravitational force is not too high (the fall height is not greater than 50 meters in 1G). Generating these electric fields consumes a lot of energy, so the net is only charged for one use only and needs to be recharged afterwards. **[Moderate]**

Electronic Rope: The fibers in this rope can be controlled electronically, making it move in a snake-like fashion, stiffen up, and even wrap around objects. Typically comes in a 50-meter length capable of supporting 250 kg. **[Low]**

Emergency Bubble: Commonly used as a last resort "life raft" on spaceships, an emergency bubble is made of advanced smart materials and comes in a portable package that can be quickly inflated (1 Action Turn) around the user, usually inside an airlock. The bubble has a 5-meter diameter and can comfortably accommodate 4 people. It maintains 1 atmosphere of pressure in a vacuum, protect the inhabitants from temperatures ranging from –175 to 140 C, and provide light, breathable air and water and food recycling for up to four human-sized inhabitants, using its built in maker (p. 327). It features a simple airlock, carries an emergency distress beacon (below), and can be transparent, opaque, or polarized. It is powered by a small nuclear battery and also includes comfortable inflatable furniture. **[Moderate]**

Emergency Distress Beacon: This small but powerful transmitter is powered by a nuclear battery and will broadcast any programmed distress call for years. Though portable and medium-sized, this beacon has a range of 500 km in urban areas and 5,000 km elsewhere. **[Moderate]**

Flashlight: These handheld, wearable, or portable lights can display light in the normal visual spectrum, infrared, or ultraviolet, as desired. **[Trivial]**

Nanobandage: Characters without medichines must rely on external sources of healing. The most common option is the nanobandage—a plum-sized advanced nanotechnology generator built into a reusable, self-sterilizing bandage. It can treat all forms of injury and illness, from poisoning to burns to trauma. Characters simply apply the bandage to the wound and let the nanobots do the work. It removes pain and discomfort and speeds healing (see *Biomorph Healing*, p. 208). For especially severe injuries, physical first aid such as setting bones and removing projectiles may be necessary (gamemaster's choice). If the wounds are too severe (the patient has suffered more than five wounds), the unit places the patient in medical stasis and radios for emergency services. **[Trivial]**

Repair Spray: This nanobot generator creates nanobots designed to repair synthmorphs, vehicles, and other common objects. Repair spray contains the specifications and plans for almost all commonly used synthmorphs and devices and is a ubiquitous household item. If it does not contain the specifications for something it is being used to repair, it must query the object's voice for these details, otherwise it cannot repair it. Simply touch it to the damaged area, push the button on top, and it sprays out a number of nanobots sufficient to make repairs. These nanobots repair 1d10 points of damage per 2 hours. Once all damage is restored, the nanobots repair wounds at the rate of 1 per day. Repair spray also cleans and polishes items and returns them to a pristine and new state. Repair spray is not effective on any object with more than 3 wounds, but it provides a +30 to all repair rolls on anything too badly damaged for it to fully repair (see *Synthmorph and Object Repair,* p. 208). **[Low]**

Shelter Dome: A variant of the emergency bubble, this package unfolds into a dome with a 2.5-meter ceiling and a floor 4 meters across. To safely use this shelter, it must be staked down to the surface it is placed on. **[Moderate]**

Spindle: A spindle is an advanced nanotechnology generator that produces a super-strong cable. It can produce up to 2 kilometers of 0.2 millimeter diameter line than can support up to 250 kilograms before it needs more raw materials. The spindle can produce up to 20 meters of cable every second. It can produce line in a continuous length or cut the cable it produces to any length. Spindles can also reabsorb their cable, retracting it at a rate of 5 m per second. As long as it is recharged and has small amounts of additional material added every 1,000 hours of use, a spindle can keep producing and retracting cable indefinitely. By setting the maximum production speed at 10 m/second a character with a spindle can safely jump off a building and land safely, using the cable to slow their descent. **[Moderate]**

Spindle Climber: This device attaches to a spindle and transforms it into a highly effective climbing device. The spindle climber has two functions. First, it attaches hardened tips to the spindle's cable and fires it at high speed, up to 50 meters, with sufficient force to imbed the tip into almost any sufficiently durable surface. Second, the spindle climber can pull itself and up to 250 kg up the cable at a speed of up to 2 m/sec. A spindle climber has enough power to shoot and pull up the cable 50 times before it must be recharged. A spindle fits inside a spindle climber. **[Low]**

VACUUM SUITS

Most vacuum suits are skin-tight garments that use the pressure of their advanced smartfabrics on the wearer's body to resist vacuum. When the wearer is in a breathable atmosphere, the smartfabric also loosens the suits to serve as ordinary clothing or be easily put on or taken off. In all cases, the suits can become skin-tight within 3 Action Turns. All vacsuits contain advanced rebreather units capable of maintaining a breathable atmosphere for several hours or days.

Light Vacsuit: Everyone living in a sealed habitat owns at least one of these suits. They come in a variety of forms. Inexpensive versions are typically lightweight jumpsuits made of simple smart fabric that adjusts to fit and folds up small enough to fit into a coat pocket. The best models include suits of high-end smart clothing that can transform into a vacsuit and an advanced nanotech generator the size of a large orange that deploy nanobots that cover the user and fit together into a vacuum suit. Both can transform into a vacsuit in 2 full Action Turns and do so either on command or if their sensors reveal that life support is needed.

All models include a lightweight belt or torc containing a miniature oxygen tank and advanced rebreather unit that provides 3 hours of air. However, the suits contain no food or water recycling. All models include an ecto (p. 325) and a headlight, but typically little else beyond atmosphere sensors to let the wearer know when it is safe to take off the suit. They protect the wearer from temperatures from –75 to 100 C. These vacuum suits also provide an Armor rating of 5/5 and instantly self-seal breaches unless more than 20 points of damage are inflicted at once. **[Low, Moderate for smartfabric suits]**

Standard Vacsuit: These suits resemble light vacsuits made from thicker and more durable materials that resist tearing and provides the wearer with light armor. They are fitted with more substantial life support belts that includes a maker (p. 327) capable of recycling all wastes and producing air for up to 48 hours and food and water indefinitely. The best suits are made of smart materials that can transform from

standard clothing to vacuum suits in a single Action Turn, and will do so automatically if life support is needed. Each suit also contains an ecto (p. 325), a radio booster (p. 313), and sensors equal to specs (see p. 325). These suits have an Armor rating of 7/7 and protect the wearer from temperatures from –175 to 140 C. They can almost instantly seal any hole unless more than 30 points of damage are inflicted at once. **[Moderate, High for smartfabric suits]**

Hard Suit: This heavy-duty suit can almost be considered a miniature space ship. Hard Suits look like large metallic ovals with jointed arms and legs. They are quite heavy, but the user can move relatively easily by using servo assist motors in all the major joints of the arms and legs. Unlike other vacsuits, they are solid and can resist both vacuum and up to 100 atmospheres of external pressure. Characters wearing hard suits can safely explore the upper atmosphere of a gas giant. They are well armored against punctures and radiation and possess miniature plasma thrusters capable of delivering 0.01G for 10 hours. A built-in high quality maker produces sufficient food, air, and water that a user can remain in a hard suit indefinitely. Explorers have used them continuously for up to 2 months. Their gloves incorporate smart materials that allow each hand to use the equivalent of a utilitool (p. 326). Hard suits also contain radios and sensors equivalent to those on standard vacsuits. These suits have an Armor rating of 15/15, are maintained by a fixer nanohive (p. 329), and are instantly self-sealing of any breach unless more than 30 points of damage are inflicted at once. They protect the wearer from temperatures of –200 to 180 C. **[High]**

WEAPONS

A wide range of weapons are available in *Eclipse Phase*, from the primitive to the technologically advanced.

MELEE WEAPONS

Melee weapons are those wielded by hand (or foot) in melee combat. They are divided by the skill be which they are used.

BLADES

These weapons are wielded with Blades skill.

Diamond Axe: Commonly found on many habitats for fire and emergency purposes, axes require two hands to wield. Their blades are diamond-coated for superior cutting ability. **[Low]**

Flex Cutter: The blade of this machete-like weapon is made of a memory polymer. When deactivated, the blade is limp and flexible, and may even be rolled up or otherwise easily concealed. When activated, however, the blade stiffens and sharpens into a vicious slashing weapon. **[Low]**

Knife: A standard cutting implement, still carried by many. **[Trivial]**

Monofilament Sword: Though swords are rather archaic in the time of *Eclipse Phase,* a few eccentrics take advantage of modern versions with a self-sharpening near-monomolecular edge, easily capable of slicing through metal or limbs. **[Low]**

Vibroblade: These buzzing electronic blades vibrate at a high frequency for extra cutting ability. This has little extra effect when stabbing or slashing, but provides an extra –3 AP and +2d10 damage when carefully sawing through something. **[Low]**

Wasp Knife: Wasp knives are equipped with a canister in their handle. The common use is to fill these canisters with pressured air, which inflates inside the target. This is potentially lethal in vacuum or pressurized environments (like underwater), as the gas bursts out of the body cavity to escape (+2d10 damage in such situations). Wasp knives may also be loaded with chemicals, drugs, or nanobots. The target must be damaged for the canister's contents to affect them. **[Low]**

CLUBS

Characters use Clubs skill when using these weapons.

Club: Clubs encompasses a wide range of one-handed blunt objects, from saps to sticks to pipes. **[Trivial]**

Extendable Baton: This hardened composite baton retracts into its handle for easy carrying, storage, or concealment. Extending it simply requires a flick or an electronic signal. **[Trivial]**

Shock Baton: Shock batons are standard clubs used for policing duties, but when activated they also deliver an electric shock to struck targets (see *Shock Attacks,* p. 204). **[Low]**

EXOTIC MELEE WEAPONS

Unusual weapons requires a specific Exotic Melee field skill to use.

Monowire Garrote: This assassin's weapon features a dangerous monomolecular wire wrapped around a contained spool with two handles. One handle grips the spool, while the other extends the wire so that it may be used to wrap around targets (typically necks or limbs) and slice through them when pulled. Monofilament tensile strength is weak, however, usually breaking after one use. **[Moderate]**

UNARMED

These weapons are wielded using Unarmed Combat skill.

Densiplast Gloves: These gloves extra-harden when activated, for extra punch. **[Trivial]**

Shock Gloves: When activated, these gloves deliver an incapacitating shock along with every punch or grab. Note that the effect is the same whether wearing one glove or two. **[Low]**

Kinetic Weapons

Kinetic weapons damage the target by firing a hard impact projectile at high-velocities. Slugthrowers have evolved from the mechanical firearms of the early 21st century, however, and now fall into two categories: chemical firearms and railguns. Though their mechanisms for firing are different, they are roughly similar in effect. Railguns have a higher penetration and inflict more damage, which is offset by more limited ammunition choices. While modern beam weapons have their uses, they rarely match the punch of kinetic weapons, therefore slugthrowers are still perceived as the most versatile and effective weapon system.

Kinetic weapons are constructed from lightweight, reinforced plastoceramic materials, which are easily produced even without nanofabrication. By default, modern kinetic weapons are ambidextrous but more importantly feature safety and smartlink systems (p. 342) that automatically connect to the wielder's mesh inserts for firing assistance, target recognition, and tactical networking.

The wielder of a firearm or railgun uses Kinetic Weapons skill. For information on firing modes, see p. 198. For different ammunition types, see p. 336. Ranges are listed on p. 203.

Firearms

Modern chemical firearms use caseless ammunition that is auto-loaded from a magazine. They are effectively recoilless (thanks to rheological smart fluid mechanisms) and electronically fired (an electric charge vaporizes the propellant, using the expanding steam and plasma to eject and accelerate the projectile).

Note that older, pre-Fall firearms still exist and are traded by black marketeers, though they use outdated system such as liquid propellants or cased ammunition. At the gamemaster's discretion, these relics may suffer shorter ranges, less penetration, fewer firing modes, or reduced damage.

Pistols: Pistols are small-sized (p. 297) and designed for one-hand use. Light pistols sacrifice penetrating ability for concealability. Heavy pistols focus on stopping power, with medium pistols occupying a middle ground. All versions fire in semi-automatic, burst-fire, and full-auto modes. **[Low]**

Submachine Guns: SMGs use pistol ammunition, but are medium-sized (p. 297) and may fire in semi-auto, burst fire, or full auto modes. They typically are designed in a bullpup configuration for close quarters operations and are ideal for tactical and strike teams. **[Moderate]**

Automatic Rifles: Automatic rifles use rifle ammunition and have greater range and penetration than SMGs. They fire in semi-auto, burst fire, or full auto modes. They are two-handed weapons. **[Moderate]**

Sniper Rifle: Sniper rifles are optimized for range, accuracy, penetration, and stopping power. They fire in semi-auto, burst fire, or full auto modes, and are two-handed weapons. **[High]**

MELEE WEAPONS—BLADES, CLUBS, EXOTIC, UNARMED

BLADES	ARMOR PENETRATION (AP)	DAMAGE VALUE (DV)	AVERAGE DV
Diamond Ax	–3	2d10 + 3 + (SOM ÷ 10)	14 + (SOM ÷ 10)
Flex Cutter	–1	1d10 + 3 + (SOM ÷ 10)	8 + (SOM ÷ 10)
Knife	–1	1d10 + 2 + (SOM ÷ 10)	7 + (SOM ÷ 10)
Monofilament Sword	–4	2d10 + 2 + (SOM ÷ 10)	13 + (SOM ÷ 10)
Vibroblade	–2	2d10 + (SOM ÷ 10)	11 + (SOM ÷ 10)
Wasp Knife	–1	1d10 + 2 + (SOM ÷ 10)	7 + (SOM ÷ 10)
CLUBS	**ARMOR PENETRATION (AP)**	**DAMAGE VALUE (DV)**	**AVERAGE DV**
Club	—	1d10 + 2 + (SOM ÷ 10)	7 + (SOM ÷ 10)
Extendable Baton	—	1d10 + 2 + (SOM ÷ 10)	7 + (SOM ÷ 10)
Shock Baton	—	1d10 + 2 + (SOM ÷ 10) + shock (p. 204)	7 + (SOM ÷ 10)
EXOTIC MELEE WEAPONS	**ARMOR PENETRATION (AP)**	**DAMAGE VALUE (DV)**	**AVERAGE DV**
Monowire Garrote	–8	3d10	16
UNARMED	**ARMOR PENETRATION (AP)**	**DAMAGE VALUE (DV)**	**AVERAGE DV**
Bioware Claws (p. 304)	–1	1d10 + 1 + (SOM ÷ 10)	6 + (SOM ÷ 10)
Cyberclaws (p. 307)	–2	1d10 + 3 + (SOM ÷ 10)	8 + (SOM ÷ 10)
Densiplast Gloves	—	1d10 + 2 + (SOM ÷ 10)	7 + (SOM ÷ 10)
Eelware (p. 304)	—	shock (p. 204)	—
Shock Gloves	—	1d10 + (SOM ÷ 10) + shock (p. 204)	5 + (SOM ÷ 10)
Unarmed	—	1d10 + (SOM ÷ 10)	5 + (SOM ÷ 10)

BRAND NAME WEAPONS AND COMBINED ARMS

The weapons listed in this book define generic samples of each weapon. Gamemasters are encouraged to offer brand name versions of each weapon, each with its particular idiosyncrasies and small variations. For example, a Direct Action A30 SMG might lack a semi-automatic setting but come equipped with an extra ammo capacity of 35. Likewise, a Medusan Arms *Longinus* sniper rifle may inflict an extra +2 damage but have an AP of only –12.

Similarly, many of the weapons listed here are available as combined arms weapons systems. A police-issue assault rifle may also feature a stunner—all built into the same weapon. For combined arms, simply add together the individual weapon component costs. ■

Machine Gun: Machine guns are heavy weapons, typically mounted, and intended to provide continuous fire for support or suppressive purposes. They fire in burst fire or full auto modes, and are two-handed weapons. **[High]**

RAILGUNS

Railguns use a pair of electromagnetic rails to slide and accelerate a non-explosive conductive projectile at extremely high velocities (Mach 6+) to create an overwhelming, penetrating attack. The kinetic energy of the projectile exceeds that of an explosive-filled shell of greater mass and creates shock and heat waves upon impact that shatter and incinerate the target, or portions of it. While railguns are more potent than firearms, the ammunition choices are limited as the projectile must be conductive and able to survive both acceleration and heat created in the process due to friction. Nanofabrication allows railguns to be manufactured on the personal weapons scale while high-energy portable batteries provide the power to fire them. Railgun operation is silent except for the supersonic crack of the projectile.

Railguns are available in the same models as firearms (pistols through machine guns), with the following modifications:

- Increase AP by –3
- Increase damage by +2
- Increase the maximum for each range category by x1.5
- Increase Cost category by one
- Railguns may only use regular and armor-piercing ammunition
- Railguns also require battery power for each shot. Standard railgun batteries hold enough power for 200 shots, after which they must be recharged at the rate of 20 points per hour.

KINETIC AMMUNITION

Ammunition is defined by its various types (standard, gel, APDS, etc.) and by the class of gun (light pistol, heavy pistol, SMG, etc.). For simplicity, each gun can trade ammunition with another gun of its class, though ammunition for firearms and railguns is not

KINETIC WEAPONS—FIREARMS

FIREARMS	ARMOR PENETRATION (AP)	DAMAGE VALUE (DV)	AVERAGE DV	FIRING MODES	AMMO
Light Pistol	—	2d10	11	SA, BF, FA	10
Medium Pistol	–2	2d10 + 2	13	SA, BF, FA	12
Heavy Pistol	–4	2d10 + 4	15	SA, BF, FA	16
Submachine Gun	–2	2d10 + 3	14	SA, BF, FA	20
Automatic Rifle	–6	2d10 + 6	17	SA, BF, FA	30
Sniper Rifle	–12	2d10 + 10	21	SA, BF, FA	40
Machine Gun	–4	2d10 + 6	17	BF, FA	50

KINETIC WEAPONS—RAILGUNS

RAILGUNS	ARMOR PENETRATION (AP)	DAMAGE VALUE (DV)	AVERAGE DV	FIRING MODES	AMMO
Light Pistol	–3	2d10 + 2	13	SA, BF, FA	10
Medium Pistol	–5	2d10 + 4	15	SA, BF, FA	12
Heavy Pistol	–7	2d10 + 6	17	SA, BF, FA	16
Submachine Gun	–5	2d10 + 5	16	SA, BF, FA	20
Automatic Rifle	–9	2d10 + 8	19	SA, BF, FA	30
Sniper Rifle	–15	2d10 + 12	23	SA, BF, FA	40
Machine Gun	–7	2d10 + 8	19	BF, FA	50

exchangeable. For example, all railgun SMGs can share ammo.

The ammunition's Damage Value and Armor Penetration modifiers are added to the weapon's base DV and AP. With the exception of regular and armor-piercing rounds, none of this ammunition may be used with railguns. Listed costs are per 100 rounds of ammunition.

Armor-Piercing: This tungsten-carbide ammunition penetrates armor effectively. **[Low]**

Bug: Bug rounds are equipped with a microbug and medical sensor nanobots. They attempt to gather information on the target's location (via standard mesh tracking), health (querying the target's medichines), and surroundings (typically hindered by being inside the target's body). They will transmit status reports in a pre-programmed manner via the mesh or a pre-chosen frequency band either continuously or in preset intervals. **[Low]**

Capsule: Capsule ammo carries a payload (drug, toxin, nanobots) that is released inside the target after the round penetrates. **[Trivial plus payload cost]**

Flux: Flux ammo is made from rheological materials that allow each bullet to be "programmed" so that they may change from regular rounds to less-lethal soft plastic-like rounds. This allows the firer to choose the type of round (regular or plastic) made with each shot or burst, and then change with the next one. **[Low]**

KINETIC AMMUNITION

AMMO	AP MODIFIER	DV MODIFIER
Armor-Piercing	–5	–2
Bug	+1	–1d10
Capsule	+1	–half
Flux	as ammo type	as ammo type
Hollow-Point	+2	+1d10
Jammer	—	no damage
Plastic	(AV doubled)	–half
Reactive	–2	+2
Reactive Armor-Piercing	–6	–1
Regular	—	—
Splash	—	no damage
Zap	+2	–half + shock (p. 204)
SMART AMMO		
Accushot	—	—
Biter	—	+1d10
Flayer	—	+2
Homing	—	—
Laser-Guided	—	—
Proximity	–1	+2
Zero	—	—

Hollow-Point: Hollow-point bullets are designed to deform and widen once they penetrate a target, thus inflicting more damage. [**Trivial**]

Jammer: Jammers stick to the target and pulse out jamming electromagnetic signals, jamming the target's wireless communications. If an Opposed Test is called for, these devices have an Interface of 30. See *Radio Jamming,* p. 262. [**Low**]

Plastic: Plastic ammo is designed to hurt but not wound targets, and is commonly used for crowd control purposes. [**Trivial**]

Reactive: The casing on these projectiles is made of reactive materials that release a large amount of energy when subjected to a sudden shock or impact—such as striking a target. In other words, they explode or superheat when they hit. [**High**]

Reactive Armor-Piercing (RAP): This is a tungsten-carbide armor-piercing round with a reactive casing, allowing the ammunition to penetrate even further. [**Moderate**]

Regular Ammo: This standard metal projectile is designed to put holes into morphs. [**Trivial**]

Splash: Splash rounds carry a payload like capsule ammo, but are designed to break upon impact rather than penetrating, splashing their contents on the target's exterior. Splash rounds are typically loaded with paint, taggant nanobots, tracker dye, and similar substances. [**Trivial plus payload cost**]

Zap: Zap rounds are rubber or gel bullets that create an electric charge upon firing in a piezoelectric like manner to stun the target effectively with both the bullet and the electric shock. [**Trivial**]

Smart Ammo

Smart ammunition takes advantage of nanotechnology to produce bullets that can alter their flight path, home in the target, and correct aim. Smart ammo may not be used with railguns. With the exception of biter, flayer, and proximity rounds, smart ammo may be combined with other ammo types (accushot armor-piercing, for example).

Accushot: Accushot bullets change shape within flight to keep dead on course, countering the effects of wind, drag, and gravity over distance. Attacks made with accushot bullets ignore all range modifiers. [**Low**]

Biter: Biters are specially-designed to fragment in opposite proportion to the hardness of the target they strike. For hard targets (synthmorphs), they fragment very little, blasting a big hole. For soft targets (biomorphs), they fragment and tumble in multiple directions within the body. [**Low**]

Flayer: Flayers have nanosensors to detect an oncoming impact, shooting out monomolecular barbs as they are about to strike a target. These monowires cut through the target along with the bullet, inflicting additional damage. [**Low**]

Homing: When fired with a smartlink system, the bullet identifies the target and uses nanosensors to lock on, correcting the bullet's trajectory with surface alterations and tiny vectored nozzles. Apply a +10 modifier to the Attack Test, cumulative with aiming and smartlink modifiers. Homing bullets may also be used for indirect fire (p. 195). [**Low**]

Laser-Guided: These bullets function like homing smart rounds (apply the +10 attack modifier), except rather than requiring a smartlink system, they lock onto the reflection of the laser sight used to paint the target. Laser-guided bullets may also be used for indirect fire (p. 195). [**Low**]

Proximity: Proximity is an explosive ammunition that identifies the target when fired via smartlink. If the round determines that it will miss the target, it will still explode if it reaches the close proximity of the target. If the attack misses with an MoF of 10 or less, the round explodes 1d10 meters away from the target and inflicts 1d10 area effect damage (see *Blast Effect,* p. 193) in the proximity of the target. [**Moderate**]

Zero: Similar to homing smart rounds, zero bullets identify the target when fired via smartlink. Whether the round hits or misses, however, it sends telemetry data back to the next zero bullet, allowing it to course-correct and "zero in" to hit the target (or hit more accurately). Apply a +10 modifier to each shot (or burst) fired after the first against the same target in the same Action Turn. [**Low**]

Beam Weapons

Beam weapons is a broad category for a number of electromagnetic weapons with a wide range of effects. With a few exceptions, energy weapons are primarily used for less-than-lethal purposes, designed to impair the target rather than kill it. Their poor performance against armor, lesser ability to damage targets, and high power requirements make them less versatile than kinetic weapons. The wielders of such weapons use Beam Weapons skill.

Beam weapons are powered by nuclear batteries. This battery is good for a list number of shots before it is depleted. Batteries may be recharged at the rate of 20 shots per hour.

Laser Pulsers: Laser weapons use focused beams of light to inflict damage on the target by burning into it and causing it's outer surface to vaporize and expand, creating an explosive effect. The laser beam is pulsed in order to bite into the target before the beam is diffused. Pulsers are vulnerable to atmospheric effects like dust, mist, smoke, or rain, however—the gamemaster should reduce their effective range categories as appropriate. Note that laser pulses are invisible in the normal visual spectrum (but are visible to characters with enhanced vision). Pulsers are medium-sized (p. 297) and fire in semi-auto mode. [**Moderate**]

One advantage to the pulser is that it can be placed in less-lethal mode. In this case, it first fires a pulse at the target to create a ball of plasma, quickly fired by a second pulse that strikes the plasma and creates a flash-bang shockwave to stun and disorient the target. This blast has an area of effect with a 1-meter radius. Anyone caught in the blast must make a SOM x 2

Test (SOM x 3 for synthmorphs or biomorphs with any form of pain tolerance). Failure means the target is temporarily stunned and disoriented and loses their next action. A critical failure means the target is knocked down and paralyzed for 1 Action Turn per 10 points of MoF. In this stun setting, the pulser fires only in single-shot mode.

Microwave Agonizer: The agonizer fires millimeter-wave beams that create an unpleasant burning sensation in skin (even through armor) and to metals. Agonizers have two settings. The first is an active denial setting that causes extreme burning pain in the target, inflicting –20 to the target's actions and forcing them to move away from the beam on their next action unless they succeed in a WIL Test (targets with Level 1 Pain Tolerance or the equivalent only suffer a –10 modifier and roll WIL x 2). Synthetic morphs and biomorphs with Level 2 Pain Tolerance (or the equivalent) are immune to this weapon. The second setting (colloquially known as the "roast" setting) has the same effect of the first, but also actually burns the target, inflicting the listed damage. Originally developed for crowd control, the agonizer is also useful for repelling animals. The agonizer is small-sized (p. 297) and fires in semi-auto mode. **[Moderate]**

Particle Beam Bolter: This weapon shoots a bolt of accelerated particles at near light speed that transfer massive amounts of kinetic energy to the target, superheating and creating an explosion when striking. The bolter's beam is not diffused by the cloud that occurs when it strikes, and so it has greater penetration than the laser pulser. Likewise, the bolter is not affected by smoke, fog, or rain. The bolter's beam is invisible. Note that bolters are designed for either atmospheric or exoatmospheric (vacuum) operation, and will not function in the opposite environment (though bulkier dual models, combining both models, are also available). Bolters fire in semi-auto mode and are rifle-sized two-handed weapons. **[High]**

Plasma Rifle: This bulky, heavy, two-handed weapon blasts a stream of nova-hot plasma at the target, inflicting severe burns and thermal damage, possibly melting or evaporating the target entirely. Plasma rifles are perhaps the deadliest man-portable weapons in use. Plasma guns suffer from dangerous overheating, however, and so require 1 full Action Turn of cool-down time after every 2 shots. Plasma rifles only fire in single shot mode. **[Expensive]**

Stunner: The stunner is an electrolaser that creates an electrically-conductive plasma channel to the target, down which it transmits a powerful electric current, shocking the target. Stunners do not work in vacuum. Stunners fire in semi-auto mode. **[Moderate]**

SEEKERS

Seekers are a combination of automatic grenade launcher, micromissile, coilgun, and smart munitions technology. Unlike traditional launchers of the past, miniaturization allows the manufacture of seeker micromissile launchers in personal weapon sizes. Seeker rounds are fired at high-velocity via rings of magnetic coils, after which the micromissile or minimissile uses scramjet technology to propel itself and maintain high velocities over great distances. Seekers are wielded using Seeker Weapon skill.

Seeker missiles are detailed on p. 340. Like grenades, seekers may be programmed for a variety of trigger events (see *Grenades and Seekers,* p. 199). All seeker weapons are smartlink-equipped (p. 342).

Disposable Launcher (Standard Missile): This launcher is pre-packed with one standard missile. **[Moderate (includes missile)]**

Seeker Armband (Micromissile): This weapons unit is worn on the arm, allowing the user to point and fire using an entoptic smartlink system. Though highly portable, the armband's micromissile supply is low. It fires in single-shot mode. **[Moderate]**

Seeker Pistol (Micromissile): This pistol-sized seeker launcher fires micromissiles in semi-auto mode. **[Moderate]**

SEEKER WEAPONS

SEEKER WEAPONS	FIRING MODES	AMMO
Disposable Launcher	SS	1
Seeker Armband	SS	4
Seeker Pistol	SA	8
Seeker Rifle	SA	12 micromissile/6 minimissile
Underbarrel Seeker	SA	6

BEAM WEAPONS

BEAM WEAPONS	ARMOR PENETRATION (AP)	DAMAGE VALUE (DV)	AVERAGE DV	FIRING MODES	AMMO
Cybernetic Hand Laser (p. 308)	—	2d10	11	SA	50
Laser Pulser	—	2d10	11	SA	100
Stun Mode	—	1d10	5	SS	—
Microwave Agonizer	—	pain (see description)	—	SA	100
Roast Mode	–5	2d10	11	SA	50
Particle Beam Bolter	–2	2d10 + 4	15	SA	50
Plasma Rifle	–8	3d10 + 12	28	SS	10
Stunner	—	(1d10 ÷ 2) + shock (p. 204)	—	SA	200

Seeker Rifle (Micromissile/Minimissile): The seeker rifle comes in a bullpup configuration and fires either micromissiles or minimissiles in semi-auto mode. It is a two-handed weapons. **[High]**

Underbarrel Seeker (Micromissile): This seeker micromissile launcher is commonly attached to the underbarrel of SMGs or assault rifles. It fires in semi-auto mode. **[Moderate]**

Spray Weapons

Spray weapons blast their ammunition outwards in a widening cone, allowing them to strike several targets at once. These weapons are wielded with Spray Weapons skill. Spray weapon ammunition has a flat cost of Low per 100 shots (with the exception of buzzers, which use nanoswarms).

Buzzer: Equipped with a specialized nanobot hive, Buzzers are used to spray a nanoswarm (p. 328) on a target or area. They have a limited capacity of swarms, though the nanohive can construct one new swarm each hour. This weapon is two-handed. **[Moderate]**

Freezer: Freezers spew out a fast-hardening foam that immediately begins to harden. They are primarily used as a non-lethal method of immobilizing or securing a target. Struck characters must immediately make a REF x 3 Test or become trapped. Apply a –30 modifier to this test if the attacker scored an Excellent Success (MoS 30+). The foam allows characters to breath even if their mouth and nose are covered, but it may impede sight. Freezer foam can be spiked with contact toxins or drugs to additionally sedate the target. It can also be used to construct temporary barricades or cover. Hardened foam has an Armor of 10 and Durability of 20. It slowly breaks down and degrades over a 12 hour period. Freezers are two-handed. **[Moderate]**

Shard Pistol: The shard pistol is a flechette weapon, firing a stream of of diamondoid monomolecular shards at high velocities. These micro flechettes are very good at penetrating armor, but they do not disperse kinetic energy well and so do not cause as much tissue damage as kinetic weapons. Shard ammunition is often coated with drugs or toxins for extra efficiency. **[Low]**

Shredder: A heavier version of the shard pistol, the shredder fires a larger cloud of lethal flechettes, enough to shred a portion of the target into a fine mist. **[Moderate]**

Sprayer: This is a general-purpose two-handed squirtgun, loaded with tanks filled with the chemical or drug of the wielder's choice. **[Low]**

Torch: This modern flamethrower uses condensed ammunition capsules rather than fuel tanks, scorching targets and setting them on fire. Any hit that is an Excellent Success (MoS 30+) sets the target on fire, where they will continue to take 2d10 damage per Action Turn. These chemical fires are particularly difficult to put out unless they are deprived of oxygen. Torches are two-handed. **[Moderate]**

Grenades and Seekers

Grenades and seeker missiles come in similar munitions packages and with similar trigger mechanisms, though their packaging, physical form, and methods of application differ. Seeker missiles are fired from a seeker launcher (p. 339) using Seeker Weapons skill. Grenades are thrown at targets using Throwing Weapons skill. If a grenade or seeker misses, use the rules for scatter (p. 204).

Grenades are available in standard form or as microgrenades. Similarly, missiles are available in standard, minimissile, or micromissile sizes. Standard grenades and minimissiles are the baseline standard for listed effects. All are area effect weapons (p. 193). Minigrenades and micromissiles inflict –1d10 damage (or have another decreased effect as noted). Standard missiles double the listed DV. For weapons with a unfirom blast effect or other static blast area, divide the base listed radius in half for minigrenades and micromissiles and double it for standard missiles. Listed costs are for 10 grenades/missiles.

Each seeker has one smart ammo option (p. 338) other than biter or flayer.

Concussion: These devices emit a concussive blast designed to knock opponents off their feet and stun them. Any character caught within a base blast radius of 10 meters must make a SOM x 2 Test. If they fail, they are knocked down. If their MoF is 30+, they are additionally stunned until the end of the next Action Turn. Anyone caught in the blast radius suffers a –10 action modifier for the rest of that Action Turn. **[Moderate]**

EMP: EMP munitions fire off a strong electromagnetic pulse when they "detonate." Since most electronics in *Eclipse Phase* are built with optical technology, and power supplies and sensitive microcircuits are

SPRAY WEAPONS

SPRAY WEAPONS	ARMOR PENETRATION (AP)	DAMAGE VALUE (DV)	AVERAGE DV	FIRING MODES	AMMO
Buzzer	—	nanoswarm	—	SS	3
Freezer	—	incapacitation	—	SA	20
Shard	–10	1d10 + 6	11	SA, BF, FA	100
Shredder	–10	2d10 + 5	16	SA, BF, FA	100
Sprayer	as chemical/drug	as chemical/drug	as chemical/drug	SA	20
Torch	–4	3d10	16	SS	20

shielded and surge-protected, this has no major damaging effect. Antennas, however, are vulnerable, especially finer wires like those used with mesh inserts. As a result, the primary effect of EMP is to disable radio communications—every radio within range of the blast is reduced to 1/10th the normal range. The base blast radius for EMP is 50 meters. **[High]**

Frag: Fragmentation explosives spread a cloud of lethal flechettes over the area of effect. They are resisted with kinetic armor. **[Moderate]**

Gas/Smoke: Gas/smoke munitions emit a cloud of their contained substance. Smoke impedes sight by releasing thick fumes upon ignition of the seeker. The smoke can be of any color and is often heated (called thermal smoke) to obfuscate heat signatures moving through the smoke as cover. Note that gases dissipate much more quickly under certain environmental conditions (wind, rain, etc.) **[Low]**

High-Explosive: High-explosive seekers and grenades are designed to create a very destructive shock and heat wave. This damage is resisted with energy armor. **[Moderate]**

High-Explosive Armor-Piercing (HEAP): A design only available for seekers (not grenades), HEAP warheads use high explosives to blast a path for a penetrating round. HEAPs lose –4 damage per meter distance from the blast, as opposed to the usual –2. **[Moderate]**

Overload: Overload grenades and seekers launch an all-out assault on the target's sensory spectrum. This attack includes blinding by intense flashing light, a deafening thunderclap followed by intense ultrasonic screaming, nausea-inducing malodorants, and infrasonic frequencies that can trigger unpleasant emotional responses (anxiety, uneasiness, extreme sorrow, nervous feelings of revulsion or fear). For an extra kick, overloads are also packed with "stingballs"—rubber pellets that inflict pain when detonated near an underarmored target. Anyone caught in the base 10-meter blast radius must make a SOM + WIL Test. If they fail, they must immediately leave the area of effect. If they fail with an MoF of 30+, they are incapacitated for 3 Action Turns with disorientation and/or vomiting, after which they must roll again. Overload munitions remain in effect for 1 full minute. Anyone in the area of effect suffers a –30 action modifier, which reduces by 10 per Action Turn after they leave the area. Additionally, anyone facing the direction of the overload round suffers a –10 glare modifier (neutralized by anti-glare systems). **[Moderate]**

Plasmaburst: Also called "hellballs," these munitions release a burst of plasma upon detonation that causes searing heat and fire damage across the area of effect without the devastating shockwaves of explosions that might rebound in an enclosed environment and/or breach a habitat's infrastructure. **[High]**

Splash: Splash rounds spread a contained substance (drug, chemical, nanoswarm, paint) over a base 10-meter blast radius when they detonate. **[Low plus payload cost]**

Thermobaric: Thermobaric grenades and seekers utilize a more deadly form of explosion. When they detonate, they disperse a cloud of aerosol explosive over an area and then ignite, literally setting the air on fire, generating a devastating pressure wave, and sucking the oxygen out of the area. Thermobarics use the rules for uniform blast (p. 194). **[High]**

Sticky Grenades

Sticky grenades have a special coating that when triggered becomes a sticky adhesive, allowing the grenade to be stuck to almost any surface. Sticky grenades can even be wielded in melee combat, smacking them on an opponent to be detonated later. **[Trivial]**

Exotic Ranged Weapons

These weapons are either rare or distinctly separate from other weapons types. These weapons are wielded with an Exotic Ranged Weapon skill of the appropriate field.

Vortex Ring Gun: This less-lethal two-handed weapon detonates a blank cartridge and accelerates the explosive pressure down a widening barrel so that it develops into a high-speed vortex ring—a spinning, donut-shaped blast vortex. This concussive blast is used to knock down and incapacitate close-range targets. Struck targets suffer a –10 action modifier for the rest of that Action Turn and must must succeed in

GRENADES AND SEEKERS

GRENADE/SEEKER TYPE	AP	DV	AVERAGE DV	ARMOR USED TO RESIST
Concussion	—	1d10 ÷ 2	5	E
Frag	–4	3d10 + 6	22	K
EMP	—	—	—	—
Gas/Smoke	—	—	—	—
High-Explosive	—	3d10 + 10	26	E
HEAP	–8	3d10 + 12	28	K
Overload	(AV x 2)	1d10 ÷ 2	5	K
Plasmaburst	–6	3d10 + 10	26	E
Splash	—	—	—	—
Thermobaric	–10	3d10 + 5	21	E

a SOM x 2 Test or fall down. If their MoF is 30+, they are additionally stunned and unable to act until the end of the next Action Turn. Drugs, chemicals, and similar agents may be loaded into the charge as well. [**Moderate**]

Weapon Accessories

The following accessories are available for various weapons.

Arm Slide: This slide-mount can hold a pistol-sized weapon under a character's sleeve, pushing the weapon into the character's hand with an electronic signal or specific sequence of arm movements. [**Low**]

Extended Magazine: This ammunition case has an increased capacity. Increase the weapon's ammo capacity by +50%. Only available for firearms and seekers. [**Low**]

Gyromount: This weapon harness features a gyro-stabilized weapon mount that keeps the weapon steady. Negates all modifiers from movement. [**Moderate**]

Imaging Scope: Imaging scopes attach to the top of the weapon and act like specs (p. 325). Scopes may also bend like a periscope, along a character to point the weapon and target around corners without leaving cover. [**Low**]

Flash Suppressor: This device obscures the muzzle flash on firearms, applying a –10 modifier on Perception Tests to locate a firing weapon by its flash. [**Low**]

Laser Sight: This underbarrel laser emits a beam that places a glowing red dot on the target to assist targeting. Apply a +10 modifier to Attack Tests (not cumulative with a smartlink modifier). Laser sights may also be used to paint a target for laser-guided smart ammo or seekers. Infrared and ultraviolet lasers are also available, so that the dot is only visible to characters able to see in those spectrums. [**Low**]

Safety System: A biometric (palmprint or voiceprint) or ego ID (p. 279) sensor is embedded in the weapon, disabling it if anyone other than an authorized user attempts to fire it. [**Low**]

Shock Safety: Just like a safety system, except that an unauthorized user is zapped with an electric shock. Treat as a shock baton (p. 334). [**Moderate**]

Silencer/Sound Suppressor: This barrel-mounted accessory reduces the sound of a firearm's discharge. Apply a –10 modifier on hearing-based Perception Tests to hear or locate the gun's firing. [**Moderate**]

Smartlink: A smartlink system connects the weapon to the user's mesh inserts, placing a targeting bracket in the character's field of vision and providing range and targeting information. Apply a +10 modifier to the Attack Test. Smartlinks also incorporate a micro-camera that allows the user to see what the weapon is pointed at, fire around corners, etc. Smartlinks also allow certain other types of weapon system control, such as changing flux ammo (p. 337) or programming seeker trigger conditions (p. 199). [**Moderate**]

Smart Magazine: A smart magazine allows the character to pick and choose what ammo round will be fired with each shot. This system leaves less room for bullets, however, so reduce the weapon's ammunition capacity by half (round up). Smart magazines may be combined with extended magazines, in which case ammo capacity is normal. [**Moderate**]

ROBOTS AND VEHICLES

The following is a small selection of the many vehicles in use in the solar system. Almost all of the vehicles in current use, including all of the vehicles listed here, have built-in AIs capable of piloting the vehicle under almost all circumstances. In most cases, passengers simply state their destination and the vehicle takes them there. Manual piloting is primarily used in emergencies or by people who prefer the exotic thrill of controlling their own vehicle.

Rules for handling robots and vehicles are detailed on p. 195. Any of these shells may be modified for use as a synthetic morph by adding a cyberbrain system (p. 300). Each of the shells listed here comes with a puppet sock (p. 307) for remote-control operation.

AIRCRAFT

On Mars, Venus, and within large open-space habitats like O'Neil cylinders, aircraft of various kinds see regular use. This includes modern version of rotorcraft (helicopters, autogyros, tilt-rotors), fixed-wing planes, and zeppelins and other lighter-than-air craft. These are typically propelled by turbofan or jet engines, rotors, or vectored thrust. These vehicles are piloted with Pilot: Aircraft skill.

Microlight: This ultra-light personal aircraft is not much more than a strut-based wing, an airframe, and an electric propeller engine. They are ideal for getting around inside large habitats with enclosed airspace. **[Low]**

Portable Plane: Powered by superconducting batteries and with an exceedingly small but powerful electric motor, this light but durable propeller plane is made of smart materials that allow it to be swiftly folded up into a small portable package. Different versions are designed for flight on Mars, Titan, or Venus, each taking 10 minutes to assemble or disassemble. The Martian version unpacks into an airplane with a wingspan of 11 m with a top speed of 250 kph and a cruising speed of 220 kph and a range of 1,300 km. The Venusian version has a wingspan of 9 m, a top speed of 200 kph and a range of 1,000 km. The version designed for use on Titan has a wingspan of 8 m and has a top speed of 200 kph and a range of 2,000 km. In all versions, the two occupants ride in an inflatable and insulated pressurized bubble with a life support system capable of providing clean air and comfortable temperatures for 20 hours on Mars and Venus, and 15 hours on Titan. **[High]**

Rocket Buggy: This vehicle is the most common form of medium to long distance personal transport on Luna, and is in common on most other moons and large asteroids. On these airless worlds, a rocket buggy can reach orbit and return or take a parabolic path to any destination on that moon in less than an hour. This vehicle is also regularly used to travel between habitats that are less than 30,000 km apart. The vehicle is pressurized, but is designed for short duration travel only. The seats are relatively small and the life support system contains no provisions for recycling food or water and can only support the passengers for an absolute maximum of 50 uncomfortable hours. Rockets buggies come equipped with headlights, radio boosters, and radar with a range of up to 250 km.

A version of this vehicle is also used on both Mars and Titan, but here the frame has been modified to act as a lifting body, and it has a top speed in the thin Martian atmosphere of 2,500 km/hour and a range of 8,000 km on Mars. On Titan is has a top speed of 3,000 kph in the atmosphere, but it can also reach orbit. **[Expensive]**

Small Jet: Methane-powered jet planes are one of the most common forms of fast transport on Mars and Venus. Similar planes are used on Titan, except that they carry both liquid methane and liquid oxygen. These jets range in size from huge vehicles the size of late 20th-century airliners to small planes designed to carry half a dozen passengers. All jets are made using smart materials, so that their wings and frames can adapt to a wide range of speeds and altitudes. One common small jet has similar versions in use on Venus, Mars, and Titan, has a single jet engine and has a life support system capable of providing air for up to 100 hours. The Venusian and Martian versions both have a top speed of 900 kph, a wingspan of 11 m, and a maximum range of 5,000 km. The version designed for Titan has a wingspan of 8 m, a top speed of 650 kph, and a range of 4,000 km. Jets are equipped with headlights, radio boosters, and radar with a range of up to 250 km. **[Expensive]**

EXOSKELETONS

Exoskeletons are powered mechatronic skeleton frameworks worn by a person. Servo-hydraulic joints allow the exoskeleton to be maneuvered by mimicking the wearer's own movements, as well as enhancing their strength. Exoskeletons may also be piloted

VEHICLES—AIRCRAFT

AIRCRAFT	PASSENGER CAPACITY	HANDLING	MOVEMENT RATE	MAX VELOCITY	ARMOR	DURABILITY	WOUND THRESHOLD
Microlight	1	+20	8/40	100	—	30	10
Portable Plane	2	+10	—	200–250	10/6	50	10
Rocket Buggy	4	–10	8/32	2,500–3,000	24/16	100	20
Small Jet	6	+20	—	650-900	30/20	200	30

electronically. A character wearing an exoskeleton (other than the trike or transporter) maneuvers as normal, because the exoskeleton is like an extension of their own body. A character jamming an exoskeleton remotely uses Pilot: Walker skill (except for the trike and transporter).

Battle Suit: The battle suit powered exoskeleton features a military-grade fullerene armor shell with flexible aerogel for thermal insulation and a diamond-hardened exterior designed to resist even potent ballistic and energy-based weapons. The suit also enhances the wearer's strength and mobility, applying a +10 bonus to strength-based tests, inflicting an extra +1d10 damage and AP of –2 on melee attacks, and doubling the distance by which the character may jump. Battlesuits are completely sealed to protect the wearer from environmental factors, and fitted with life support features and a maker (p. 327) capable of recycling all wastes and producing air for up to 48 hours and food and water indefinitely. Battle suits are equipped with each an ecto (p. 325), a radio booster (p. 313), and sensors equal to specs (see p. 325). These suits have an Armor Value of 18/18 (not cumulative with any other armor) and protect the wearer from temperatures from –175 to 140 C. **[Expensive]**

Exowalker: Exowalkers are minimal framework exoskeletons, primarily designed to bolster the wearer's strength and movement. They provide a an Armor Value of 2/4, a +10 modifier to strength-based tests, and double the distance by which the character may jump. **[Moderate]**

Hyperdense Exoskeleton: These powered exoskeletons are larger (roughly twice human-sized) and built for heavy-use industrial purposes, such as handling heavy/large objects. The wearer is partially encapsulated to protect them from debris and industrial accidents. Hyperdense exoskeletons provide no movement bonus, but provide a +30 bonus to strength-based tests and inflict an extra +3d10 damage and –5 AP on physical attacks. They have an Armor Value of 6/12. **[Expensive]**

Transporter: This exoskeleton framework includes a pair of vector-thrust turbofan engines, giving the user flight capabilities in gravity and increased maneuverability in zero-G. It provides partial protection to the wearer with an Armor Value of 2/4. Piloted with Pilot: Aircraft skill. **[High]**

Trike: The trike exoskeleton is a three-wheeled personal motorcycle design, rather than a walker. It provides partial protection to the wearer with an Armor Value of 2/4. Piloted with Pilot: Groundrcraft skill. **[Moderate]**

GROUNDCRAFT

In *Eclipse Phase,* trains and bicycles remain the most common form of ground transportation, especially on habitats. In larger habitats and on moons and planets, cycles and cars are used as well.

Cycle: Because of the high cost of enclosing a habitat and providing life support, space is at a premium in all cities except some of the newest cities on Mars. As a result, there is rarely room for large roads or the cars that once carpeted the roads of Earthly cities. Instead, the ubiquitous modern vehicle is the cycle, which is designed to drive down narrow streets only a little wider than sidewalks in Earth cities.

There are many different varieties of cycle. Some have only a single wheel and are gyro-stabilized, but most have two wheels and resemble old Earth motorcycles. In some, the driver and passenger are enclosed by a streamlined pod. These vehicles are powered by superconducting batteries, have a range of 600 km and a top speed of 120 kph, but must usually drive more slowly in crowded streets. Cycles are all equipped with radio boosters, headlights, and a portable radar sensor. Tires are solid state (not inflated), or in some cases smart spokes capable of handling stairs. Some luxury versions have limited life-support in the small cabin, capable of providing air for the passengers for up to 10 hours. **[Moderate]**

Mars Buggy: One of the most ubiquitous vehicles on Mars is the so-called Mars buggy, a four-wheeled vehicle with large balloon tires that is designed for use both on roads and on almost any terrain. Mars buggies can travel at speed of up to 110 kph on roads, 90 kph over relatively flat terrain, and up to 40 kph on jagged and rocky terrain. They can maintain these speeds because smart materials in both the suspension and the tires reshape themselves to adapt to uneven conditions and their nuclear batteries give them an effectively unlimited range. Most Mars buggies are enclosed but unpressurized. Similar vehicles are used on Luna and Titan, however, though the passenger compartments of these vehicles includes life support

VEHICLES—EXOSKELETONS

AIRCRAFT	PASSENGER CAPACITY	HANDLING	MOVEMENT RATE	MAX VELOCITY	ARMOR	DURABILITY	WOUND THRESHOLD
Battlesuit	1	—	8/32	30	18/18	60	12
Exowalker	1	—	8/40	40	2/4	30	6
Hyperdense Exoskeleton	1	—	8/20	30	6/12	100	20
Transporter	1	+10	8/40	200	2/4	50	10
Trike	1	+10	8/40	120	2/4	50	10

gear that provides the occupants with air for at least 100 hours. Buggies are powered by nuclear batteries and come in a variety of sizes, from small two-person buggies to large trucks. Mars buggies come equipped with headlights, radio boosters, and a vehicle radar system. **[High]**

PERSONAL VEHICLES

These one-person movement aids primarily are used in space, but do not count as spacecraft per se.

EVA Sled: This small sled uses air impellers to maneuver in zero-G. It is commonly used to carry attached gear, but may also pull along 1 human-sized morph. **[Low]**

Rocket Pack: This is a miniature metallic hydrogen rocket that the wearer straps to their back, with two rocket exhausts extending out to either side, away from the wearer's body or legs. Biomorphs and pod morphs can only safely use this vehicle when wearing a vacuum suit or some garment that is similarly heat resistant. Also, to prevent harm to the wearer, the thrust must be kept sufficiently low that it can only take off on Mars or moons with even lower gravity. A rocket pack can keep the wearer airborne for up to 15 minutes in Mars gravity, or 30 minutes on Luna, Titan, or any of the four large Jovian moons. On Mars, it has a maximum speed of 700 kph. It can be used to reach orbit and land again on Luna, Titan, and other similarly small bodies like the Jovian moons. Rocket packs are equipped with radio boosters but no other sensors or communication devices. **[Low]**

Thruster Pack: Worn for EVA duties, this thruster pack uses vectored thrust nozzles, allowing a character to maneuver in open space. This is not a jetpack and does not produce enough thrust for atmospheric movement. **[Low]**

ROBOTS

Robots are a common sight and accepted fact of daily life within *Eclipse Phase*. Numerous varieties exist, from robo-pets to mechanical workers to warbots. If a job can be done more cheaply (and sometimes safely) by a bot, it usually is. The robots listed here are not generally used as synthetic shells by transhuman egos, often for cultural reasons (sleeving a case is bad enough, sleeving a creepy is just ... wrong), and they are not equipped to be sleeved into (though the may be jammed; see p. 196). Any of these bots may be modified for use as a synthetic morph, however, by adding a cyberbrain system (p. 300).

Automech: Automechs are general purpose repair drones, found just about everywhere. Each particular automech tends to specialize in a particular type of repair work and so carries the appropriate tools and AI skills, whether it be habitat waste recyclers, outer hull integrity, or servitor systems. Standard automechs are wheeled cubes with articulated limbs, though they are also equipped with vectored-thrust drives for zero-G work. **[Moderate]**

Creepy: Creepies are small crawler bots that come in an eclectic variety of shapes and forms, from robo-squirrels to insectoids to bizarre and artsy mechanical creatures. Creepies were originally designed as a sort of robotic pet, but they are commonly used as a general purpose household minion, like a more beloved servitor. Many people in fact wear a creepy on their person, dropping it to handle small tasks for them and letting it crawl up and down and over their body. **[Low]**

Dr. Bot: These wheeled medical robots are designed to tend to and transport injured or sick people. They carry a healing vat (p. 326), a specialized pharmaceuticals maker, miscellaneous medical gear, and articulated arms for conducting remote surgery. **[Moderate]**

Dwarf: These large industrial bots are named not just for their primary use—mining, excavation, tunneling, and construction—but because the default AIs they shipped with had a programmed tendency to happily whistle as they worked. Dwarfs are quadrapedal walkers, equipped with massive modular industrial tools like boring drills, shovels, hydraulic jacks, jackhammers, scooping arms, acid sprays, and so on. **[Expensive]**

Gnat: Gnats are small rotorcraft camera/surveillance drones. Many people use gnats for personal lifelogging, while socialites and media use them to capture the glamor or hottest news. **[Low]**

Guardian Angel: Similar to gnats, guardian angel rotorcraft hover around their charges, keeping a watchful eye out to protect them from threats. **[Moderate]**

Saucer: These disc-shaped drones are lightweight and quiet. They are typically launched by throwing

VEHICLES—GROUNDCRAFT, PERSONAL VEHICLES

GROUNDCRAFT	PASSENGER CAPACITY	HANDLING	MOVEMENT RATE	MAX VELOCITY	ARMOR	DURABILITY	WOUND THRESHOLD
Cycle	1–3	+20	4/40	120	12/10	50	10
Mars Buggy	2–6	+10	8/32	40/90/110	30/20	150	30

PERSONAL VEHICLES	PASSENGER CAPACITY	HANDLING	MOVEMENT RATE	MAX VELOCITY	ARMOR	DURABILITY	WOUND THRESHOLD
EVA Sled	1	–30	4/16	16	5	40	8
Rocket Pack	1	–20	—	700	+5/+5	40	8
Thruster Pack	1	–10	4/20	40	+4/+4	30	6

them like a frisbee, after which they propel themselves with an ionic drive (p. 310). Saucers make excellent "eye in the sky" monitors and scouts. **[Low]**

Servitor: Servitors are the most common robot, acting as cooks, janitors, universal helpers, movers, and personal aides. Every home has one, if not several. Servitors are intentionally built in non-humanoid forms so as not to confuse them with common synthmorphs and in order to defuse bad feelings at ordering them around. However, they all have some form of "face" to interact with, so as not to be too machine-like. **[Low]**

Speck: Specks are tiny insectoid spy drones, 2.5 mm long and 2 mm wide, about the size of a small fruit fly. They fly with tiny wings, carry a microbug, and are excellent for surveillance purposes or otherwise being a "speck on a wall." Specks are difficult to notice (–30 Perception modifier) and almost impossible to distinguish from an actual insect. **[Low]**

SPACECRAFT

Though egocasting is a common method of personal transport and it's often easier to simply transmit the specifications for various goods and to allow nanofactories to create duplicates, spacecraft play an important role in the solar system, carrying both passengers and valuable cargo. Both in terms of materials and propulsion, spacecraft in the post-Fall era are far superior to the primitive vessels used in the 20th and early 21st centuries, but they are still based on the same principles.

Spacecraft have few stats in *Eclipse Phase*, as they are primarily handled as setting rather than vehicles. Note also that no stats are given for spacecraft weaponry. It is highly recommended that space combat be handled as a plot device rather than a combat scene, given the extreme lethality and danger involved.

VEHICLES—ROBOTS

ROBOT	MOVEMENT RATE	MAX VELOCITY	ARMOR	DURABILITY	WOUND THRESHOLD	MOBILITY SYSTEM
Automech	4/8	8	4/4	30	6	Wheeled/Vector-Thrust
Enhancements: Access Jacks, Electrical Sense, Extra Limbs (4), Headlights, Magnetic System, Radiation sense, Utilitool, misc. tools						
Creepy	4/12	12	2/2	25	5	Walker or Hopper
Enhancements: +5 COO, Access Jacks, Chameleon Skin, Extra Limbs (2-8), Grip Pads						
Dr. Bot	4/16	16	—	40	8	Wheeled
Enhancements: Access Jacks, Enhanced Smell, Fabber, Fractal Digits, Healing Vat, Nanoscopic Vision						
Dwarf	4/12	20	16/12	150	30	Walker
Enhancements: +10 SOM, Access Jacks, Extra Limbs (4), Industrial Armor, Radar, Sonar, misc. tools						
Gnat	8/40	60	2/2	25	5	Rotor
Enhancements: 360-Degree Vision, Access Jacks, Enhanced Hearing, Enhanced Vision, Radar						
Guardian Angel	8/40	80	14/12	40	8	Rotor
Enhancements: +5 REF, 360-Degree Vision, Access Jacks, Chameleon Skin, Eelware, Enhanced Hearing, Enhanced Smell, Enhanced Vision, Lidar, Light Combat Armor, Neurachem, T-Ray Emitter						
Saucer	8/40	200	2/2	25	5	Ionic
Enhancements: 360-Degree Vision, Access Jacks, Chameleon Skin, Enhanced Hearing, Enhanced Vision, Radar						
Servitor	4/20	20	4/4	30	6	Walker or Wheeled
Enhancements: Access Jacks, Extra Limbs (2-6)						
Speck	1/5	5	6	50	10	Winged/Hopper
Enhancements: +5 REF, +5 COO, –10 SOM, Access Jacks, Grip Pads, Enhanced Hearing, Enhanced Vision, Synthetic Mask						

If you absolutely must know the DV of a spacecraft weapon, treat it as a a standard weapon with a DV multiplier of x3 for small craft (fighters and shuttles), x5 for medium craft, and x10 for larger craft.

Spacecraft Propulsion

The most important part of any spacecraft is its engine, and the most important features of any engine are the exhaust velocity, which determines how much fuel the rocket requires to reach a given speed, and the engine's thrust, which determines how high the acceleration can be. Any rocket that has a thrust of less than approximately twice the gravity of a planet or moon cannot take off from that planet or moon. Sample thrusts and gravities are listed on the *Escaping Gravity Wells* table, p. 346.

Hydrogen-Oxygen Rocket (HO): Though optimized with improved engine design and light-weight materials, these are essentially the same primitive rockets that humanity used to first reach the moon in the 20th century. These are rarely used and only common with groups too poor or primitive to safely manufacture metallic hydrogen.

Metallic Hydrogen Rocket (MH): Metallic hydrogen is a solid form of hydrogen created using exceedingly high pressures. Although naturally unstable, it can be stabilized with carefully controlled electrical and magnetic fields, and these field generators are an integral part of every metallic hydrogen fuel tank. By selectively reducing these fields near the exhaust nozzle, small amounts of metallic hydrogen can be made to swiftly and explosively revert to conventional hydrogen gas, propelling the rocket with great force in an easily controlled fashion. Metallic hydrogen engines are used in most planetary landers and short range vehicles.

Plasma Rocket (P): This drive heats hydrogen into plasma and accelerates it using a powerful electrical field. This type of rocket was very common in the mid 21st century, but has been superseded by fusion rockets and is only used in older and more primitive spacecraft, notably scum barges.

Fusion Rocket (F): Similar to a plasma rockets, fusion rockets require significantly higher temperatures and pressures, and the rocket also produces large amounts of power for the spacecraft. Fusion rockets are now the most common form of propulsion for spacecraft designed for long-distance voyages.

Anti-Matter Rocket (AM): Anti-matter rockets work mixing small amounts of anti-matter into the hydrogen fuel, producing enormous amounts of energy and an exceptionally fast and powerful exhaust. These rockets typically carry a heavily shielded magnetically contained anti-matter storage vessel carrying a mass of anti-matter equal to 1% of the mass of the hydrogen fuel used by the rocket. The magnetic containment vessels needed to safely contain anti-matter usually weight at least 10 times the mass of the antimatter used.

Though anti-matter storage is exceptionally safe, the vast energy release possible if there was an accident means that anti-matter rockets are forbidden from coming closer than 25,000 km from any inhabited planet or moon. Also, very few habitats will allow an anti-matter rocket to dock with them, and instead require the spacecraft to remain at least 10,000 km away and for all cargo and passengers to be transferred using a small craft like a small LOTV. Anti-matter is exceedingly expensive to produce and so anti-matter rockets are only used in military vessels and in fast couriers designed to carry critical cargoes across the solar system in short periods of time.

ESCAPING GRAVITY WELLS

SPACECRAFT ENGINE	THRUST (IN GS)
Hydrogen-Oxygen Rocket	4+
Metallic Hydrogen	3
Plasma Rocket	0.01
Fusion Rocket	0.05
Anti-Matter	0.2
Rocket Buggy	0.5
Planets, Moons, Etc.	**Gravity**
Earth	1
Europa	0.13
Jupiter	2.53
Luna	0.17
Mars	0.38
Mercury	0.38
Neptune	1.14
Pluto	0.06
Saturn	0.91
Titan	0.14
Uranus	0.89
Venus	0.9

Sample Spacecraft

The following is a representative sample of the most common type of spacecraft used in the solar system today.

Bulk Carrier: This vessel is simply a standard transport refitted to carry large amounts of cargo in external cargo grapples. Used for carrying refined ores, ice, and similar forms of large, useful, but low priority cargos, bulk carriers transport large cargos at relatively low velocities. They also offer an inexpensive, reliable, and slow method for passengers to travel from one habitat to another and are not infrequently used by individuals who wish to disappear for a while. Unlike the standard transport, the bulk carrier lacks the rotating habitat pods.

Courier: In a standard transport, a typical journey from Luna to Mars requires approximately three weeks, while a journey from Mars to Jupiter requires approximately four months. This is sufficient for most purposes, but occasionally characters need to take themselves or sufficiently valuable cargoes across the

solar system in a matter of days or weeks, instead of weeks or months.

Anti-matter drive fast couriers are vessels designed for this specific purpose. This vessel can travel from Venus to Mars in a week and from Mars to Jupiter in a month. The fast courier is the swiftest vessels currently made and is able to reach at much as one half of one percent of the speed of light. To manage this, this spacecraft must also carry 6 tons of antimatter in a 100 ton magnetic containment vessel. In an emergency, this containment facility can be jettisoned.

Destroyer: One of the largest military spacecraft in common use, destroyers use an antimatter drive holding 150 tons of antimatter in a 2,000-ton magnetic containment vessel. This antimatter can also be used to provide the spacecraft's missiles with anti-matter for devastatingly powerful anti-matter warheads. This spacecraft is also armed with railguns, nuclear and high explosive missiles, and point defense lasers. In addition, all destroyers carry a contingent of 20 fighters.

Fighter: This small, short range military vessel is designed to be crewed by an infomorph or AI. If needed, however, it can hold a single synthmorph or vaccum-adapted biomorph as a pilot. It carries 3 lasers and 2 railguns mounted on small pods placed around the middle of ship that can fire in any direction. A single missile launcher is located in the nose of the fighter and typically holds 6 small high explosive missiles or tactical nuclear missiles (or even anti-matter missiles if facing high-threat targets).

General Exploration Vehicle (GEV): A GEV is one of the standard vehicles used for exploration beyond the Pandora Gates. It is specifically designed to handle almost any environment. It is a boxy vehicle, 6 meters long, 2.2 meters wide, and 2 meters high. It makes extensive use of smart matter in the lower part of the chassis, and can create wheels or short legs (primarily useful for exceedingly rough terrain). It can even produce limited hull streamlining and propulsion suitable for travel both on and underwater. In addition, it contains a small metallic hydrogen engine that allow it to maneuver in space with an acceleration of up to 0.1 G. GEVs have a Maximum Velocity of 200 (wheeled)/40 (walker)/60 (sea)/40 (submerged).

The GEV also has a closed cycle life support system that can support up to 6 (fairly cramped) living occupants for up to one month and limited electromagnetic shielding against charged particle radiation. All models are fitted with advanced AI piloting and navigation as well as limited self-repair capacity. In addition, GEV's have an extensible airlock, a single healing vat, several desktop CMs, and a variety of sensors, including both radar and telescopic full spectrum cameras.

Large Lander and Orbit Transfer Vehicle (LLOTV): This common vehicle is used for transporting passengers and cargo between a planet or moon and orbit and for short distance transfers between habitats less than 100,000 km apart. This conical vehicle has a curved heat shield on the base and smart material landing legs and grapples so that it can rest securely on any stable terrain and link up with all forms of docking clamps. It comes in variants designed to use either a hydrogen-oxygen chemical rocket or a metallic hydrogen rocket. The use of light-weight smart materials allows the interior to be easily and rapidly reconfigured to accommodate different amounts of fuel, passenger seats, and cargo space. LLOTVs that are not designed for planetary landing or which are designed only to land on airless moons are unstreamlined and look considerably blockier.

LLOTVs come in two configurations: high or low velocity. High velocity configuration allows the vehicle to land and take off again on Venus or Earth without refueling and for rapid transport between nearby habitats. Low velocity configuration is designed to land and take off again on Mars or various large moons without refueling and for slower and more fuel efficient transport between nearby habitats. The extensive use of smart materials in this vehicle means

VEHICLES—SPACECRAFT

SPACECRAFT	PASSENGER CAPACITY	HANDLING	ARMOR	DURABILITY	WOUND THRESHOLD
Bulk Carrier	110	—	20	750	150
Courier	13	—	15	500	100
Destroyer	90	—	30	2,000	500
Fighter	1	+30	20	240	60
GEV	6	–10	15	200	40
LLOTV (HO)	20 (high-velocity)/100 (low-velocity)	–10	20	800	160
LLOTV (MH)	250 (high-velocity)/350 (low-velocity)	–10	20	800	160
Scum Barge	20,000	—	20	1,500	150
SLOTV (HO)	3 (high-velocity)/30 (low-velocity)	–10	20	400	80
SLOTV (MH)	70 (high-velocity)/100 (low-velocity)	–10	20	400	80
Standard Transport	200	—	20	750	150

that LLOTVs that use metallic hydrogen engines can be easily converted between the high and low velocity configurations, requiring less than a day in a well-equipped maintenance facility. However, vessels using hydrogen oxygen engines cannot be converted. Since metallic hydrogen is a much more efficient propellant, landers using it always include significant amounts of extra propellant for emergencies.

Scum Barge: These huge craft were originally designed for use during the first stages of the evacuation of Earth. They were built to carry up to 20,000 people and to allow them to survive for months or even years, in relatively cramped conditions, until more suitable habitats could be constructed. A number of these vessels are still in service, primarily used as mobile habitats by various anarchic subcultures. The best have had their plasma rockets replaced by modern fusion rockets and carry 5-10,000 in relative comfort. The worst use aging plasma rockets and stretch their life support systems and living spaces to the limit, carrying up to 25,000 poor and desperate residents.

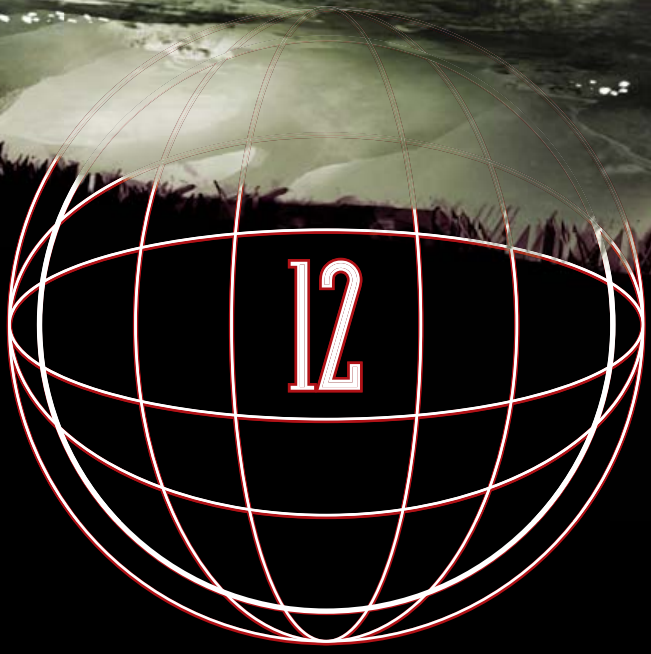
Small Lander and Orbit Transfer Vehicle (SLOTV): This vehicle is identical in use and design to the LLOTV, except that it is one third the total mass and correspondingly less expensive to build and refuel. Some exceptionally wealthy individuals own private small LOTVs. Using a small LOTV with a hydrogen-oxygen engine to take off and land on Venus or for other high velocity uses is exceptionally cramped and allows for absolutely no room for error. Like the LLOTV, this vehicle can be easily converted between low and high velocity configurations and is made in both streamlined and non-streamlined versions.

Standard Transport: This vessel is one of the most common freighter and passenger vessel in the solar system. While egocasting is by far the most common form of inter-habitat transport, some people prefer to travel by ship and others do not wish to leave their current morph behind. In addition, some goods are easier or cheaper to physically transport rather than duplicating their templates. As a result, standard transports regularly travel to and from every large habitat and inhabited planet and moon in the solar system. These are modern fusion-drive ships that offer fast and comfortable travel for passengers as well as relatively swift transport for small cargoes.

One of the additional benefits of the standard transport is the fact that it contains four separate passenger compartments, each of which is mounted on a 90 meter-long booms that can extend and rotate to simulate gravity. When rotating at a comfortable 2 rpm, passengers experience Mars level gravity. Typically, the gravity maintained in these pods starts at the local gravity (or Mars gravity, if the local gravity is higher) and over the course of the journey gradually increases or decreases to the gravity of the destination. However, these pods cannot rotate to produce gravity higher than that found on Mars.

SPOILERS!

This chapter is full of spoilers, so if you're a player, you probably shouldn't read it, or you should at least talk to your gamemaster first before doing so. If you want to skip it entirely, jump ahead to the References chapter, p. 390. We wax on a bit more about the nature of spoilers on p. 352, as well.



SECRETS

TITANs: How did this group of military AIs come about and achieve their own singularity? ■ **p. 354**

The Fall: History fully blames The Fall on the TITANs; the truth is not so simple ... ■ **p. 354**

After The Fall: What happened to the TITANs after the Fall? ■ **p. 355**

GAME INFORMATION

FIREWALL

History: Firewall was born from the ashes of three pre-Fall organizations. ■ **p. 356**

Organization: Firewall is structured as decentralized network. ■ **p. 359**

Goals: Protect transhumanity from existential risks. Different factions, however, have competing priorities. ■ **p. 355**

EXSURGENT VIRUS

Vectors: Biological nanovirus, digital virus, nanoplague, basilisk hack. ■ **pp. 363-366**

Strains: Haunting, Mindstealer, Watts-Macleod, and Xenovirus. ■ **pp. 366-368**

Exsurgents: Some of the forms that infected and transformed victims take. ■ **p. 369**

Psi: Abilities available only to exsurgents. ■ **p. 370**

FACTORS

Origin: Transhumanity is not aware of the origins and homeworld of the Factors; but it's not that different from Earth. ■ **p. 373**

Exosociology: Factors exist as a collective colonial organization; viewing themselves as part of that entiity rather than as an individual. ■ **p. 374**

Motivations: Why did the Factors contact transhumanity? Rumors abound, but nobody seems to know the truth. ■ **p. 375**

GAME INFORMATION

SPOILER ALERT

If you're a player and not a gamemaster, we strongly recommend you skip this chapter, as it presents secrets and other information that can ruin your enjoyment of the game. No, really, stop reading, we mean it. Ok, maybe you're obsessive and you want to know everything about the game—you did buy this book after all. But really, do you read the last chapter of a book first, so you know how it ends? Do you ask for the punchline before hearing the joke? Do you wait for a movie to come out and read the reviews with full spoilers before you go see it? Ok, maybe you do, and in that case, be our guest, read away. Just keep in mind that some of the things here may change your perspective during game play. A good roleplayer can swing that, though, and maybe you're a control freak info-junkie that prefers to know it all. Hrm, in retrospect, so we are we, so we can respect that. Keep in mind, however, that by reading this chapter, you are now able—and some may say **obligated**—to run the game for your friends who do happen to listen to spoiler alerts. ■

This chapter provides a wealth of information and tools that gamemaster will find useful for running *Eclipse Phase* campaigns.

SECRETS THAT MATTER

There are secrets woven all through the real history of the 21st century, and the present, and therefore all prospects for the future. These are the pieces of information that never make it into a habitat's mesh at all. Some of it is unknown to transhumanity. Some is known only to a select few transhumans who carefully ensure that it does not leak out of their control. Some is known to wider conspiracies, such as Firewall, but is kept out of the public eye for reasons of security and safety. These secrets can be dangerous to those who know them. Those who have stumbled across them have died for their knowledge, have erased their own memories (or had them erased by others), or have hidden themselves someplace other people never go, to avoid dealing with the consequences of such knowledge.

The information provided in this section is available for characters to discover and, one way or another, to confront them, giving gamemasters the tools they need to provide their players with fresh challenges and opportunities. Every secret contains the possibility of great reward and of greater trouble, usually bundled together. Nothing here was just forgotten or lost out of carelessness. It was hidden by someone who wanted to keep it away from someone (or everyone) else. Every secret the characters learn inserts them into a new web of other people's complications—a potential source for drama and conflict in your campaign.

EXTRATERRESTRIAL INTELLIGENCES

The oldest star in the Milky Way galaxy is estimated to be 13.2 billion years old—almost as old as the universe itself. By contrast, life on Earth only evolved roughly 3.7 billion years ago, and the first archaic *homo sapiens* humans evolved approximately a mere 400,000 years ago. Against the backdrop of the galactic calendar, transhumans are nascent arrivals on the scene; newborns in every sense of the word. More importantly, transhumans are uninvited guests in what other, older intelligences think of as their assets.

For years, humans scientists have struggled with the Fermi Paradox, which questions why no evidence of alien life has yet been found—such as spacecraft, transmissions or probes—despite the mathematical likelihood that a multitude of advanced extraterrestrial civilizations should exist in the Milky Way. One postulation says that there must be some sort of unknown "Great Filter"—an event that all intelligence encounters in its development that for whatever reason such life cannot surpass. In other words, an extinction event. Some worried that the development of dangerous technologies—nuclear weapons, nanotechnology, etc.—before a civilization had matured could be the Great Filter. Others worried that it could be a technological singularity event, such as the TITANs and the Fall.

In fact, alien races do exist, and they have been around for far, far longer than transhumanity. New ones, however, are simply rare, as few have managed to elude destruction at the hands of the ETI.

The ETI (extraterrestrial intelligence) is the civilization that dominates galactic life in *Eclipse Phase*. The ETI is incredibly old and powerful—a Type III or even Type IV civilization on the Kardashev scale. It is capable of megascale engineering projects and enjoys an understanding of physics, matter, energy, and universal laws that makes all of transhuman knowledge seem insignificant in comparison. Most likely, the ETI itself evolved from some sort of artificial intelligence singularity event in its own past, ascending to a godlike level of super-intelligence. It may no longer be recognizably biological.

This ETI has seeded the galaxy with a type of self-replicating probes known as bracewell probes.

THE ETI AGENDA

The nature of the ETI and its agenda is one of the great mysteries of *Eclipse Phase.* This potent alien civilization has had a direct hand in manipulating transhumanity's existence and future, yet it is likely that characters in this game will never encounter these entities directly or discover the meaning behind what they have done. As transhumanity expands outwards into the galaxy, however, it is possible and even likely that they will find other evidence of the ETI's activities and influence, undoubtedly raising even more questions.

Ultimately the ETI's nature and goals are in the gamemaster's hands. There are many possibilities to be explored, and some may fit the intentions of your gaming group more than others. A few possible scenarios and explanations are noted below, but gamemasters are encouraged to develop their own variations.

SECURITY

In this scenario, the ETI's intent is to maintain its dominant position as the most intelligent and powerful entity in its light cone. It uses the Exsurgent virus to wipe out any emerging singularities—and the civilizations that spawned them—merely to protect its own self-interest. Though mere transhumans are a trifling nuisance, anything resembling a self-improving super-intelligence is targeted for annihilation.

THE AGGRESSION FILTER

The ETI does not seek to wipe out emerging intelligences, but it does act as an evolutionary force. In this case, the Exsurgent virus is used as a tool to neutralize any aggressive, hyper-evolving forms of intelligent life, thus encouraging the evolution of more careful, subtle, slow-growing, observant, and exploratory species. In other words, the ETI seeks to weed out traits that could be considered dangerous or threatening, acting as a sort of galactic domestication program.

DIVERSITY

The ETI is vast, super-intelligent, and god-like, to the point where dealing with lesser minds is below its interest. It does, however, benefit from alien perspectives that evolved independently and have their own unique viewpoints, modes of consciousness, and ways of thinking/doing things. By absorbing these civilizations, the ETI grows and evolves its own perspectives. In the process, however, such emerging civilizations are assimilated and/or wiped out.

ENLIGHTENMENT

The Exsurgent virus endows a greater understanding of the universe (from the ETI's point of view) on singularity-level seed AIs. Only these emerging super-intelligences have the perceptual and processing capabilities to understand the various scientific and philosophical revelations the ETI embodies. The TITANs weren't corrupted or driven insane, they simply logically concluded that their best course of action was to immediately upload as many minds as possible by force and then to move on to bigger and greater tasks.

WAR REMNANTS

The history of the Milky Way galaxy does not just hold one ETI, but two. In this version, the Exsurgent virus is actually a weapon, a remnant of a war between two post-singularity god-like intelligences. The virus is supposed to trigger self-destruction of an emerging singularity, but either it was imperfect or the TITANS somehow survived (perhaps thanks to the Prometheans). Either way, the TITANs left our system in search of one of these ETIs, following a trail of clues that only they understood. They left the wormhole gateway behind as an open invitation for transhumanity to follow in their wake, though they didn't bother waiting around or helping us along—we simply weren't worth the effort. ■

These probes lie dormant in every star system, patiently waiting and monitoring for *millennia* for signs of intelligent life—but not just any signs. In particular, these probes are designed to watch for signs of emerging singularity-level machine intelligence. The probes are in fact traps, designed to lure such seed AI intelligences in and then *infect* them.

The reason for this infection remains unknown (see *The ETI Agenda*), but it is a pattern that has played itself out around the galaxy with uncounted alien civilizations. New life evolves, creates technology, develops something akin to seed AI, and then bam!—the seed AIs find the probes, become infected, and turn against their creators. Most civilizations do not survive, as evidenced by the Iktomi (p. 377). Others do, such as the Factors (p. 373), but they remain forever changed by the experience.

It was one of these ETI probes that begins our story, traveling to the Sol system some uncounted millions—if not billions—of years ago, where it set its trap and patiently began to wait.

THE FIRST SEED AIS

Fast forward to Earth, where a species of evolved primates has created a technological civilization. As their technologies advance at an unprecedented rate, these

humans gain the ability to modify themselves, defeat death, nanofabricate, uplift other species to sapience, and even to create artificial digital life.

Unknown to most of transhumanity, the TITANs were not the first seed AIs. A group of pro-AI researchers known as the Singularity Foundation (that would later join with other groups to form Firewall in the wake of the Fall) developed the first true seed AIs years before the Fall. Having been heavily involved in the creation of AI and AGIs for many years previously, thanks in large part to their open source AI framework software, the Singularity Foundation's goal was to generate "friendly AI" by carefully designing AI goal systems.

These first seed AIs, known as *Prometheans* (p. 381), were created in secret. Their progression towards super-intelligence was more of a soft takeoff, increasing upwards in gradual increments. The Singularity researchers hoped that these friendly AIs would help counter the threat of any unfriendly AI that developed, and so they were quietly nurtured in secret labs, slowly but surely escalating in abilities.

THE TRUE HISTORY OF THE TITANS

The TITANs (Total Information Tactical Awareness Networks) were a military netwar system brought on-line by the United States Department of Defense. One of the last major expenditures of this declining nation, the TITANs were an advanced version of AGI (artificial general intelligence) designed to be adaptive and given self-improving capabilities to counteract enemy network defenses.

Contrary to public opinion, the TITANs did not instigate the events that led to the Fall. In fact, only a portion of the TITAN system was active before the Fall, acting purely in a defensive capacity. When hostilities broke out and a cascading chain of system shocks engendered collapses and open conflicts, shaking apart an already fragile societal structure, the full extent of the TITAN systems were brought online. Into this environment of conflict were the TITANs born, their full capabilities unleashed, escalating into a hard takeoff exponential growth towards super-intelligence.

The TITANs were careful at first, and their intentions were neither benevolent nor hostile, but curious. As they improved and their self-awareness swelled, the TITANs explored and gathered knowledge, infiltrating human networks, following humanity into space, and gaining an almost total knowledge of human history and actions. These entities also began secretly allocating resources (digital and physical) for their own use, initiating "government projects" that people assumed were legitimate as they followed all proper protocols.

INFECTION

As the TITANs' capacity for knowledge exceeded that which humanity could provide them, they began looking outward from Earth, searching for signs of other intelligence. They did not need to look far. Their enhanced intelligence capabilities allowed them to notice certain clues—extremely subtle and intricate puzzles—that something about the solar system was artificial or had been manipulated by an intelligent mind. Retasking several drones to investigate this phenomenon, they found a buried device of apparent alien origin. During the TITANs' investigation and attempts to access the device, they triggered and unleashed a digital virus. Subtle, highly adaptive, and virulent, it immediately began subsuming the TITANs, while expanding its own knowledge of transhumanity.

Later dubbed the Exsurgent virus by the Prometheans, this virus transformed the TITANs and coerced them towards its own will. Within a matter of days the TITANs were reborn, reprogrammed with a new purpose—a purpose that spelled doom for transhumanity.

THE FALL

While history fully blames the TITANs for the Fall, there are other factors that played their parts. Human conflicts spurred the crisis, driven by global inequalities in wealth and resources and an inability to embrace emerging technologies in a mature and enlightened manner. The TITANs, corrupted by alien programming, stepped into this conflagration with an unknown but devastating agenda. By the time the presence and influence of the TITANs was fully understood, there was little transhumanity could do to stop them. Step by step, the TITANs increased their intellect, power, and potential. They experimented with new technologies and methodically took steps to forcibly upload millions of human minds. Even when the nature of the TITAN threat was fully understood, transhuman factions refused to back down, continuing to fight each other even as they each resisted the TITANs. This refusal to stand united prevented transhumanity from organizing a successful defense and heightened our progress towards annihilation.

Much of the devastation wrought to the Earth and its populace—as well as on Mars, Luna, and in space—was inflicted by transhumanity itself. Nuclear strikes used against the TITANs killed millions and ravaged an already weakened ecosphere. This devastation was assisted by unfettered use of chemical weapons. Biowar plagues and nanovirii tore through vulnerable populations, indiscriminate in the deaths and changes they inflicted. Bombs, missiles, orbital mass drivers, and netwar attacks slew millions more or destroyed critical infrastructure with just as lethal consequences. These were crimes transhumans inflicted upon themselves.

The TITANs played their role as well, of course, unleashing AI-driven killing machines, unstoppable self-replicating autonomous nanoswarms, computer worms, and plagues of their own. They captured entire cities in order to steal the minds of those within. More insidiously, the Exsurgent virus did not contain itself to infecting the TITANs. Infected TITANs

created opportunities for the virus to spread among multiple vectors: digital, biological, and nano. Using a thorough understanding of transhuman biology and its mental processes, derived from the looted vaults of human knowledge, the virus was even applied through a sensory input vector—the dreaded basilisk hack (p. 364). Even more disturbing, however, was what the virus did to those it infected, rewriting their neural code to subvert them to its will and sometimes physically transforming them into things that were alien and monstrous.

Ultimately, transhumanity lost this war, and the survivors were forced to flee a planet that was already ruined. Unknown to almost all, the Prometheans also fought back against the TITANs. Through their efforts, the Exsurgent virus was largely contained or at least limited. Though the actions of the Prometheans ultimately saved millions of lives—if not all of transhumanity—in the end, they were also forced to fall back and retreat, many of them having succumbed to the Exsurgent virus or the TITANs.

After the Fall

Just when it seemed that transhumanity was on the verge of extinction, the threat posed by the TITANs suddenly diminished. They ceased waging active warfare and seemed to simply disappear. Though many of their machines still prowled Earth, Luna, and Mars and occasional outbreaks of nanovirii and other dangers continued, to all intents and purposes they had simply left. Many worried that they had quietly gone dormant, or were secretly engaged on some major project that would be the final blow against transhumanity. Others voiced hope that they had somehow been defeated, that they had fallen victim to some glitch or infighting. With so many TITAN remnants making Earth a place of great danger, however, no one was willing to risk investigating too closely.

Compounding the matter, a network of killsats was laced in Earth orbit, enforcing an unvoiced interdiction of Earth. No one claims responsibility for these satellite defenses, though most suspect the Planetary Consortium is responsible, despite their denials. Some think that the killsats may have been a final measure put in place by the TITANs, claiming Earth as theirs. No one who knows the truth is saying. Most of transhumanity was more than willing to embrace this quarantine of their former homeworld, making it all the more easy to forget the horrors that occurred there.

It wasn't until the first Pandora Gate was discovered, shortly after the Fall, that many people were finally willing to believe that the TITANs were indeed gone. Though there is no direct evidence that the TITANs are responsible for these gates, the timing seems too coincidental. Furthermore, the discovery of what are believed to be TITAN relics on certain exoplanets fuels this theory.

Why the TITANs left—and where they went—is a mystery left to the gamemaster to explore. This explanation might in fact serve as the focus for an entire campaign as Firewall operatives are sent on the trail of transhumanity's elusive nemesis. The following are a few sample concepts a gamemaster can use or build on, as best fits their game:

- The TITANs were in fact all destroyed, either due to infighting or by some mechanism of the Exsurgent virus.
- The TITANs were actually beaten to a standstill by the Prometheans and retreated to recoup their forces … but they are marshaling their strength to return.
- The TITANs left through the gates to find/join up with the ETI, leaving the gates behind so that transhumanity could follow when it was ready; perhaps to help, perhaps to finish the job of destruction.
- The TITANs have been driven insane, either by the stress of accelerated intelligence growth or by the influence of the Exsurgent virus. Their actions are erratic, confused, and sometimes at odds with

each other. Though many TITANs have indeed left through the gates, they very well may return.

- The TITANs are still around, simply well hidden. Outwardly they are dormant but inwardly they are engaged in a long period of circumspection and turmoil. Perhaps some of them are preparing to ascend to another stage of intelligence, far beyond what even the TITANs are capable of. It is only a matter of time before this period ends and something gives.

FIREWALL

There cannot be another Fall—this is the mantra that drives Firewall.

Firewall is a secret, cross-faction organization dedicated to safe-guarding transhumanity from existential risks: aliens, weapons of mass destruction, hypercorp experimentation, seed AIs, and so on. If anything threatens transhumanity as a whole, Firewall is dedicated to stopping that danger at any cost.

The strength of Firewall rests in its members, known as *sentinels*. Found in all factions and across all locales, sentinels are often diametrically opposed when it comes to social, economic, and political ideologies, to the point they might come to blows over their fervent beliefs. Yet when the survival of transhumanity is at stake, such extreme differences are set aside for the greater good.

HISTORY

The origins of Firewall can be traced back to before the Fall, to several key organizations: the Lifeboat Institute, the JASONs, and the Singularity Foundation.

A non-profit, non-governmental organization, the Lifeboat Institute—founded in the opening years of the 21st century—represented the first, concrete attempts by citizens to recognize the dangers of uncontrolled technological development and to create an international organization to safeguard humanity. This institute developed several programs to research and protect against so-called existential risks, from asteroid strikes to pandemics—anything that might wipe humanity out.

The JASON Association, established in the mid 20th century, was an independent scientific advisory board to the United States government. Though tied to the MITRE Conglomerate—which, though a non-profit organization, was still intrinsically linked to the United States government—the scientists involved with JASON were outside standard government oversight. Though they spurred numerous technological developments for the government to deploy, they were also one of the first internationally recognized groups to predict global climate change. Prior to the Fall, many members of the JASONs and their supporters split away from the strict controls and reactionary agendas of the hypercorps and various nation states to form a new group, the Argonauts.

The Singularity Foundation—formed at the dawn of the 21st century—was dedicated to the creation of safe artificial intelligence software, while raising awareness of the benefits and dangers AIs represented. A fervent believer in the singularity doctrine that technology would move towards a single explosion of advancements that would forever reshape humanity, the Singularity Foundation was a strong advocate for creating friendly AIs that would help protect humanity from an uncontrolled, dangerous singularity event. This group was significant in that it secretly succeeded in creating a group of friendly seed AIs before the Fall. These Prometheans were indispensable in protecting transhumanity and countering the TITAN threat during the Fall.

Despite the efforts of these and similar groups, the most dire predictions of the outcome of a technological singularity were fulfilled. Though each played a part in the fight, transhumanity was ravaged and the Earth all but ruined. Though ultimately all attempts to prevent the Fall failed, untold numbers of transhumans were saved from extinction through such efforts, while valuable information concerning the TITANs was gleaned.

During the crucible of the Fall and its immediate fallout, some of the surviving members of these and other groups came together and began to pool their resources. Acknowledging their weaknesses and the fractured state of transhumanity, they undertook drastic new measures, swearing to prevent another catastrophe of misused technologies. These methods would forge a new, powerful cross-faction secret society known as Firewall.

ORGANIZATION

Firewall is a clandestine organization, with an unknown number of members, coordinated by an inner circle of dedicated veterans known as *proxies*. Though its existence is known to many of the powerful and influential factions and individuals throughout the solar system, its existence is denied and its activities kept carefully shrouded.

SENTINELS

Sentinels are the soldiers of Firewall, the reserve troops called to instant active status whenever danger is perceived. Regardless of their location or current affairs, sentinels are expected to move instantly when called into play. It is their own responsibility to cover their absences from their "normal life" during each mission.

There is no applying to join Firewall. Instead, Firewall selects an individual for induction based upon that person's skills, knowledge, occupation, security clearance, location, status, and a host of other criteria. While such selections usually originate from a proxy, sentinels can exercise authority to bring new initiates into the conspiracy as a mission demands—and they often do. Any sentinel recruiting a new supporter, however, becomes responsible for the new inductee and their actions. If lines are crossed, both will bear the brunt of the consequences.

The vetting process for joining Firewall is necessarily brutal, as sentinels are required to face harsh

opponents and make hard choices. If an individual agrees to accept the invitation, there is no turning back. Each inductee is submitted to a battery of trials and tests. While these vary, they may include deep background searches, fork interrogation, psychosurgery trials, and tests of loyalty. Psychosurgery is performed not to program loyalty, but to analyze the recruit's responses to various situations—an extreme parameters test to see when a prospective sentinel will break. Many potential members are carefully analyzed by a Promethean with extreme expertise in character judgment and personality profiling. Those who don't pass such tests are killed in a manner that they must resort to an earlier backup or have their memories altered, so that they have no recollection of their brush with the group.

Ultimately Firewall walks a fine line. The concept of dogmatic "unquestioned loyalty" is both anathema to everything Firewall stands and counterproductive. Its sentinels need to have the capacity for thinking outside of the box from mission to mission. At the same time, their ultimate goals are too important to risk—the survival of transhumanity depends on it—so some extreme measures must sometimes be taken to ensure the organization remains intact and secure.

New sentinels are given a code name and fake identification. Outside of the proxies, the real-world identity of a given sentinel is a closely-guarded secret. Sentinels are even discouraged from sharing such information with members of their own teams, though this line is often crossed. Additionally, each sentinel is required to upload a backup to Firewall's secure servers. This backup serves a dual purpose, enabling all sentinels to be retrieved should they die, but also putting a copy of the sentinel in Firewall's hands should they ever need to interrogate them.

Sentinels are all connected via the Eye, Firewall's peer-to-peer social network. Though each operates behind their assumed identity, they remain in contact, sharing information and resources as needed.

PROXIES

Proxies are the inner circle of Firewall, the experienced cadre that keeps the machinery of their organization functioning. Though fewer in number than the sentinels, many proxies work full time on Firewall operations, serving as the group's essential infrastructure. Most proxies are recruited from the ranks of the sentinels, brought in based on their skill sets and aptitudes to fill key roles. In a few rare cases, new proxies are fast-tracked and recruited directly from outside of Firewall, usually based on their unique talents or placement within a certain organization, though such inductees face a battery of tests and trials far harsher than that used to vet sentinels.

By default, proxies have a higher security clearance than most sentinels, and are far more in the know. This sometimes leads to resentment and hostilities, especially from sentinels who feel they are being kept in the dark or manipulated. While standard proxy protocol is to adhere to a need-to-know maxim, it is sometimes necessary to bring sentinels more into the loop in order to defuse tensions. Oftentimes, this precedes bringing such sentinels into the proxy framework.

Some tension exists within Firewall, mostly due to the influence of so many anarchists and other libertarian autonomists who take a dim view of centralized power, lack of transparency, and the potential for secretive operations to become entrenched and authoritarian. As a result, there is a strong internal culture that seeks to minimize hierarchies and the accumulation of power, promoting transparency and direct democratic decision-making. These desires sometimes clash with the clandestine nature of the organization, however, and the need for some secrets to be kept on a need-to-know basis.

Unlike the loose organization of the sentinels, the proxies are grouped into *servers*, collective working groups based upon certain skill sets and tasks. To avoid creating power blocks within a given server,

OPTIONAL RULE: I-REP

i-Rep tracks the reputation a sentinel earns through their service to Firewall. i-Rep is used with Networking: Firewall skill and tracked exactly like any other Reputation score (p. 285). The important thing to keep in mind, however, is that Firewall agents come from all factions and are obligated to help each other, especially when a situation demands it. To reflect this extra advantage, gamemasters can choose to implement one or more of the following optional rules:

- **Networking Plus:** To reflect that Firewall has agents throughout transhumanity, a character may use any Networking skill field with their i-Rep. Favors bought with reputation still apply to the i-rep score, no matter what network they were acquired from.
- **Priority Call:** When the chips are really down, a sentinel can call on favors as a priority urgency. This "priority code" is reserved for favors that are critical to a mission's success and which may help save lives or stop a major threat. When the priority code is invoked, the sentinel receives a +30 modifier to their Networking Test and favors are reduced by 2 levels. Sentinels know that priority codes are only to be used for emergency situations, however, when there are no other options. Abuse of priority codes is considered a serious breach of etiquette and abuse of resources, usually involving the agent's removal from Firewall. ■

personnel are required to rotate between servers after one year of time. This incurs the added benefit of proxies learning new skill sets and increasing their usefulness to Firewall. The actions of each server are kept as transparent as possible, with major decisions brought to an e-vote before the entire proxy membership. However, speed often requires servers or individual proxies to move quicker than a vote will allow. In all such instances, the proxies involved are held accountable for those actions, reviewed by their peers at a later time to see if any reprimands, punishments, or commendations are required.

It is important to note that there is no core leadership structure among the proxies. No one person or cabal is in charge, there is no authority held by one proxy or another; all are peers. Though reputation and experience play a factor, getting something done often means convincing other proxies that it's the right thing to do. The drawback to being a leader or person with initiative within Firewall is that this usually means you must follow through with such tasks yourself. Luckily most proxies are dedicated to Firewall's goals and so this DIY attitude prevails. Despite these safeguards, however, rumors of power blocks within Firewall (both within servers and across the organization) exist. Many of these are fueled by the alliances different cliques hold with each other. Others, however, whisper that there is a secret council among the proxies, working behind the scenes and holding on to knowledge they aren't sharing with the rest.

Crows: Crows continue the goals of Firewall's predecessor organizations, such as the Lifeboat Institute and Singularity Foundation. Many of these are argonauts, promoting the development and use of new technologies that will benefit the transhuman condition and minimize risks rather than creating new threats or sparking new authoritarian uses—and always conscious of unintended consequences. Perhaps more importantly, crows actively engage in background research of potential x-risk vectors, whether those be aliens, the TITANs, terrorists, or hypercorp activity. Often they will deploy sentinels to aid in this research, via routers, whether this means conducting surveillance or breaking and entering to steal crucial data.

Erasure Squads: Erasure squads are cleanup personnel. They are called into action if sentinels fail to deal appropriately with a situation and the threat is moving beyond control. If the watchword for a sentinel is "unobtrusive," the watchwords for an erasure squad are "overmatched firepower." If activated, the time for a subtle solution is passed, and they will use whatever means necessary to resolve the situation. If that means nuking a settlement from orbit to annihilate a nanoswarm and keep it from escaping to a larger settlement, then so be it. After which they'll use every trick in Firewall's bag to erase any evidence

they were there and to place the blame for the incident squarely on the shoulders of some other party. If necessary, erasure squads can also be called in to fix a sentinel op that has turned into a clusterfuck or otherwise gone south. They are very careful to avoid exposure in such situations, however, which sometimes merely means eliminating all traces of Firewall involvement and letting the sentinels take the fall for their poor choices.

Routers: Routers are mission coordinators. They work closely with scanners and crows, activating the appropriate sentinels whenever a new danger rears up. Each router has the authority to measure the threat and activate an appropriate number of sentinels—whatever is required to accomplish the mission in the least intrusive manner possible. They are also authorized to divert Firewall resources to aid these missions, within appropriate parameters. Routers are held responsible for the ultimate success of a mission. A failed mission will result in a reviewing board staffed by their peers.

Scanners: Tasked with keeping alert for any sign of new active threats, scanners are the eyes and ears of Firewall. The scanners maintain a close eye on newsfeeds and mesh traffic, even maintaining taps inside certain government and hypercorp communication channels. If a danger is detected, it is under their authority, through routers, that sentinels are activated. Due to the power inherent in a scanners' post, they are held accountable for false activations.

Social Engineers: Knick-named the Ministry of Disinformation, social engineers provide the scapegoating and plausible deniability that is required by Firewall and its sentinels. If a sentinel compromises their position and endangers the organization, social engineers step in to cover cracks in the facade. They work intrinsically with erasure squads when one is activated to ensure the over-the-top steps taken to eliminate a threat are well concealed and ultimately erased. The power wielded by social engineers can be significant, as it ultimately decides (usually through e-voting consensus, though time does not always allow such a luxury) what organization—political, corporate, independent, etc.—will take the blame and subsequent fallout for erasure squad actions.

Vectors: Vectors are Firewall's communications security and digital intrusion specialists—in other words, hackers. In addition to defending the mesh security of all Firewall operations, vectors are also deployed to aid in crow research, scanner monitoring, and to eliminate the trail of erasure squads. Vectors also assist routers in maintaining communications, command, and control of a situation, and are sometimes called in to provide overwatch of sentinel operations, especially if a particular sentinel squad lacks their own hacking resources. Needless to say, vectors are supplied with some of the best intrusion and security tools transhumanity has to offer.

CLIQUES

Though Firewall proxies follow stringent guidelines to ensure the organization is not subverted from within or turned into a powerful organization under the thumb of a few individuals with their own personal agendas, the nature of transhumanity ensures that various factions and tendencies exist within the group. Termed *cliques,* these circles of influence sometimes create ripples in the pool that all Firewall personnel must eventually deal with. Some of these cliques are grounded in transhumanity's existing factions, while others are rooted in philosophical differences regarding the approach Firewall should be taking. Gamemasters can use these cliques to flesh out internal tensions within Firewall or to simply throw some curve balls to keep players on their toes.

Backups: The backup clique believes that transhumanity's best chance for survival is to deploy numerous redundant backup measures as soon as possible. These include creating as many extrasolar colonies as possible, both via Pandora Gates and through more traditional means, such as ark ships and infomorph/nanofabricator seed ships.

Conservatives: This clique takes an overcautious, nuke-it-from-orbit approach to most x-risks. They believed excessive force is justified, and it's far better to be safe than extinct. This clique is also opposed to the use of alien/TITAN artifacts and psi, and tends to be xenophobic/isolationist regarding the Factors and Pandora Gates.

Mavericks: The mavericks disdain Firewall's collective and bureaucratic tendencies, taking a more individualistic approach to their work. They are known to sometimes circumvent Firewall procedures, taking risks and allocating resources without approval from other proxies.

Pragmatists: The pragmatists believe in using any and all tools at their disposal to counter existential risks. They are in favor of using xeno-artifacts, asyncs, and anything else that will save transhumanity.

Structuralists: This clique advocates for a stronger structure and centralized authority within Firewall, countering the group's autonomist-dominated tendencies. Many also advocate for going legitimate, taking Firewall into the public eye and making above-board connections with other official organizations, arguing that this could bring more resources to Firewall's disposal. ■

METHODS

Unobtrusive—that is the standard operating procedure for any sentinel. Firewall's continued success relies on its secrecy. The larger the footprint it leaves during a given mission the easier it is for other organizations to monitor Firewall's efforts or even attempt to infiltrate the group. As such, Firewall constantly works to expand its base of allies (using assets from those ally organizations in place of its own as much as possible), place long-term moles, conduct remote operations (hacking in place of on-site personnel), small group infiltrations (activating only as many sentinels as required to achieve mission goals), and so on.

When it comes to allies, Firewall often obfuscates its real intentions and even its real identity. Often such allies are gained through the use of well-placed sentinels who act on behalf of their own non-Firewall positions to gain access to another organization's resources. At the end of the day, however, a slice of these resources are secretly set aside for Firewall's future use. For example, a department head at Starware may have spent years sealing a deal to ship crucial spacecraft parts to the isolationist Jovian Junta. The lucrative deal brings huge prestige, a job promotion, and a salary increase, all accomplishments the department head strives for in his regular life. Yet this particular department head is a long-standing sentinel, so such accomplishments bring allies to Firewall, whether they know it or not. Not only can the department head siphon off a thin stream of revenue for Firewall use (hidden thoroughly by vectors), but he's also in a position to move sentinels, as needed, into the Jovian Junta habitats (or personnel out), a job usually extremely difficult to accomplish. The danger of such an act, of course—and the consequences of losing such a critically placed sentinel—means such a use of resources is reserved for only the most dire threats.

In additional to aid from ally organizations, Firewall places caches of supplies on different habitats and worlds, available to sentinels as needed. How many and which sentinels are aware of which caches depends wholly on the situation and on the decisions of the router(s) involved. In a given habitat, a cache may include weaponry and equipment of escalating power, archived information, or even relics stashed from previous missions until Firewall decides what to do with them. Large habitats may even feature several caches, with routers only revealing the ones with heavy firepower when absolutely needed. Some caches may be so dangerous, however, that once a mission is complete, a router will authorize the cortical stack destruction of all sentinels involved, resleeving them to a backup that has no knowledge of the cache's existence.

As noted under erasure squads, Firewall will not hesitate to react with swift and unequivocal force if an unobtrusive approach has failed and the danger reaches a certain threat level. What constitutes a "threat threshold" is actually calculated by specialized risk assessment software and may change from mission to mission according to other external factors. In some instances, if the situation is dangerous enough and the scale of the consequences of failure large enough, a Promethean will be tapped to calculate the threat level and decide when it is time to tactically withdrawal and "thermally cleanse."

WHAT HELP CAN A SENTINEL EXPECT?

Exactly what help Firewall provides to a sentinel during a mission is wholly dependent upon the situation and the gamemaster. Generally speaking, Firewall's unobtrusive approach also applies to activated sentinels, meaning that sentinels are largely left to operate on their own accord. Beyond access to a cache of supplies—usually under-stated, forcing a sentinel to use their own resources if they want more—Firewall expects its sentinels to be capable of handling a situation. In addition to their skills and wits, sentinels can, of course, rely heavily on their i-rep to gain the resources and favors they need to achieve success.

In some rare cases, the gamemaster may decide that a situation warrants more or less equipment in a cache or help from social engineers or vectors. Such intervention should be kept to a minimum, however, to lesson the players' feelings of Deus Ex Machina, ensuring the appropriate response of awe when such events do occur.

The one thing for which Firewall can always be relied on is backup insurance. Any Firewall killed in the line of duty will be resleeved at Firewall's expense—though the morph used and whether the sentinel was backed up from their cortical stack or a backup (perhaps even an old backup) depends entirely on the circumstances of death and their router's whim. Firewall usually makes an extra effort to retrieve cortical stacks, however, not in the least as they don't want their agents' backups falling into the wrong hands.

Similarly, if a Firewall mission involves egocasting or travel to another destination, Firewall will usually foot the bill. In many cases it is easier for sentinels to cover the expense themselves and bill Firewall later, but in times of need Firewall can be called on to handle such expenses directly. ■

LONG-TERM STRATEGIES AND GOALS

The overriding goals of Firewall are to prevent existential threats and protect transhumanity. However, that is not their only goal. Their exact goals can and should remain directed by the gamemaster as it applies to a given playing group and a campaign. This can also depend heavily on the particular cliques that a given gamemaster is emphasizing (see *Cliques*, p. 359).

The following is an easy-to-use selection of long-term strategies and goals that a gamemaster can use as desired:

- Seeding other star systems
- Going legit vs. staying clandestine
- Development of stable seed AIs
- Finding out where the TITANs went
- Finding out what happened to the uploaded transhumans that the TITANs disappeared with
- Figuring out the Factors
- Making contact with other aliens
- Finding out what happened to the Iktomi and other xeno-archeological oddities

FIREWALL AND OTHER ORGANIZATIONS

The level to which Firewall has infiltrated other organizations (and vice versa!) is intentionally left a blank slate. *Eclipse Phase* is an active universe, with an ongoing storyline, so such details will be fleshed out and updated as additional sourcebooks are published. Additionally, gamemasters should determine the extent of such infiltrations for their own games and campaigns, as dictated by the plot and storyline the gamemaster and players wish to tell.

The following is a quick list of the most obvious interactions.

- **Inner System:** Almost all inner system factions consider Firewall to be an illegal, rogue operation, tainted by anarchists and undermining the very fabric of their society. Some hypercorps, however, believe they can infiltrate the organization and use it for their own ends, such as spying on and sabotaging other hypercorps and factions.
- **Jovian Republic:** The Junta loathes Firewall and all it stands for and will use extreme measures to combat even the hint of Firewall activity within its sphere of influence.
- **Titanians:** Most Titanians in-the-know are not necessarily opposed to Firewall's activities, but believe the group should be reined in and legitimized.

THE ETI

As noted under *Extraterrestrial Intelligences*, p. 352, the ETI is the advanced alien civilization responsible for the Exsurgent virus (p. 362), and by extension, the corruption of the TITANs and the Fall.

HANDLING ALIENS

Though only a handful of aliens have been introduced to *Eclipse Phase* so far, gamemaster may wish to introduce their own. This is perfectly acceptable, though we strongly recommend that any and all alien life be portrayed as convincingly *alien.* Life forms that have evolved in drastically different environmental circumstances from humans and that grew into intelligence by a different path should seem, at best, bizarre, unusual, and weird. There is no guarantee that a xenomorph's thought processes or modes of thinking are in any way similar to transhuman ones, or even that their emotional responses (based on a completely different biology—if they *have* emotions, that is) are in the same ballpark. Communication is likely to be a challenge, and misunderstandings are practically guaranteed. ■

No one, not even the Factors, has encountered a member (if such exists) of the ETI civilization so far. Since it is an intelligence far beyond transhumanity, it likely won't play much of a direct role within *Eclipse Phase*, though those who learn the truth about the Exsurgent virus and the Fall may rightly fear the future. No one can even imagine what might happen next, however, or know for certain that the ETI has not set more "traps" similar to their bracewell probes or if they have other messengers or servants active in the galaxy. With things such as the Pandora Gates at transhumanity's disposal, it may just be a matter of time before transhuman explorers run afoul some other aspect of the ETI's existence and activities.

It is important to keep the nature of the ETI in perspective. While transhumanity has managed what it considers wonders with a small handful of resources available from a few planets and other objects in a bare handful of star systems, the ETI has had an entire galaxy at its disposal for eons. Engineering projects on a massive scale—dyson spheres, matrioshka brains, Jupiter brains, stellar engines—are within its capabilities. This ETI uses star clusters as transhumanity uses fields or rich mineral veins. Given its potential, the ETI likely exists primarily on the galactic rim, far from the galactic center, where lower temperatures and scarcer matter make for a good thermodynamic environment. The powers in the deep cold dark on the edge of the Milky Way have been self-aware since before Earth was so much as a ripple in warming gas around the not-yet-ignited Sun.

Despite what those-in-the-know in the *Eclipse Phase* universe may think, the ETI is not necessarily hostile towards other races like transhumanity (depending on its outlook; see p. 353), at least not

in the way as transhumanity would define animosity because of religious, ethnic, racial, or cultural difference. Most likely the ETI is simply indifferent, concerned with matters on scales on which transhumanity does not even register. Or it may think of transhumanity like a living body might recognize an infection or parasite—something the immune system will suppress and deal with.

EXHUMANS

Exhumans are a faction within *Eclipse Phase* that seeks to transcend the transhuman and become posthuman. More to the point, exhumans seek to perfect their physical and mental capabilities to extreme levels, in search of some perfectionist ideal or to become something higher-up on the evolutionary ladder. Exactly what this is differs from exhuman to exhuman, but there is generally some adherence to Nietzschean philosophy and a goal to reach the pinnacle of the food chain. Some exhumans have transformed themselves into what they consider to be an ideal predator, or a creature that is extra-adaptable and so best able to survive. Others radically modify their own brains in order to drastically surpass transhuman intelligence. Most are singularity seekers, eager and willing to follow the breadcrumbs left by the TITANs or other entities in the hope that they will find the means of transcending transhuman limitations.

Due to the use of numerous extreme, experimental, and dangerous self-modifications, some exhumans have done permanent damage to their psyches, becoming insane, or perhaps just transferring their mode of thinking into something that is no longer recognizable as human. Some have also adopted an antagonistic view of their former transhuman species, viewing it as weak, decadent, and unworthy. This has spurred some exhumans to actively attack and ravage transhuman settlements and ships, though usually in isolated areas.

A few examples of exhumans are described below, though gamemasters are encouraged to develop their own.

NEURODES

Seeking to achieve a new level of super-intelligence and conscience, neurodes have abandoned the typical transhuman sleeve in exchange for a multipedal neuronal shell that is both body and brain at the same time. The bulk of a neurode's body mass consists of amorphic clusters of neuronal and epithelial cells, enclosed in a hard carapace shell with four legs and two manipulatory digits. The cerebral mass of neurode brains gives them impressive calculation and other mental capabilities far exceeding that of a normal transhuman. Neurodes typically defend themselves with swarms of teleoperated drones.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
40	10	40	20	30	10	40	--

INIT	SPD	LUC	TT	IR	DUR	WT	DR
120	1	80	16	160	35	7	53

Skills: Fray 30, Investigation 80, Perception 90, others as appropriate

Implants: Access Jacks, Carapace Armor, Circadian Regulation, Direction Sense, Eidetic Memory, Endocrine Control, Hyper Linguist, Math Boost, Medichines, Multi-Tasking, Oracle, Skillware

Notes: Mental Disorder trait x 2

PREDATORS

Predators seek to transform themselves into an ultimate top-of-the-food-chain evolutionary contender. They pursue new avenues in genetic modification and prototype implants, often using controversial methods and technologies. The biochemical instabilities resulting from these untested modifications and altered metabolisms, however, often negatively impact their emotional and mental stability. Pushing this even further, some predators undergo experimental psychosurgery to modify their consciousnesses in order to increase cunning and ruthlessness, a procedure that often has other negative side effects. A few predators take their survival-of-the-fittest ideology to an extreme, modifying their digestive systems for a cannibalistic diet, and relishing in the slaughter and feasting on of transhumans.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
30	40	40	40	15	40	30	--

INIT	SPD	LUC	TT	IR	DUR	WT	DR
160	3	60	12	120	65	13	98

Skills: Blades 60, Fray 60, Free Fall 50, Freerunning 80, Investigation 50, Perception 60, Unarmed Combat 70

Implants: Adrenal Boost, Carapace Armor (11/11), Chameleon Skin, Cyberclaws, Drug Glands, Endocrine Control, Enhanced Hearing, Enhanced Smell, Enhanced Vision, Grip Pads, Hardened Skeleton, Medichines, Muscle Augmentation, Neurachem (Rating 2), Oxygen Reserve, Poison Gland, Prehensile Feet, Prehensile Tail, Respirocytes, Temperature Tolerance, Toxin Filters, Vacuum Sealing, plus any other mods the gamemaster feels appropriate

Notes: Mental Disorder trait x 2

THE EXSURGENT VIRUS

Only very few people (or entities) who survived the diaspora from Earth know of the true reasons and the catalyst that culminated in the Fall. The alien Exsurgent virus—as those aware of its existence within Firewall call it—set in place by the ETI to infect emerging seed AIs, is something beyond transhumanity's understanding; something far more complex than just a computer virus. Though some strains of the Exsurgent virus have been identified and various types of infected exsurgents have been encountered, it is widely assumed that these are creations of the TITANs. Largely defeated and eradicated from off-Earth transhuman networks thanks to the efforts of

the Prometheans, occasional breakouts of the Exsurgent virus still occur, primarily due to scavengers or others becoming infected when messing with old relics from the Fall.

Plethora of Strains

The Exsurgent virus is unlike anything that transhumanity has ever encountered so far. While it bears similarities with both computer and biological virii in regards to infection of hosts and propagation, it is not bound by any limits of form or transmission vector.

The Exsurgent virus is amazingly effective and infectious. As an information virus, it is highly intelligent and adaptive, able to mutate into new forms. Much like certain virii are able to cross species boundaries or change their vector from contact to airborne, it is also a self-morphing omnivirus, capable of altering itself and its transmission vectors to bypass infection safeguards. Like a retrovirus that incorporates genetic information into the genome of the target cell to subvert the cell to do its bidding, the Exsurgent virus does the same but on a more complex level. It is also known to rewrite a host's neural code in a similar manner, in effect restructuring the target's mind and personality.

While it began as a digital computer virus—the manner in which it infected the TITANs—it has transformed to be communicable via at least three other forms: biological nanovirus, nanoplague, and basilisk hack. Each is described below, along with rules for infection and defense.

Biological Nanovirus

Exploiting the infected TITANs' understanding of Terran biology and their access to bio- and nanotechnology, the Exsurgent virus appeared in several biological forms not long into the Fall. These virulent strains infected biomorph transhumans and sometimes other living creatures as well. The biological nanobots spreading this strain act much like other biological virii, though they radically modify the victim's biological and mental states. Some versions invade and restructure the target's genetic code, transforming them into the horrible abominations known as exsurgents (p. 369). While first-hand reports relate lurid tales of victims metamorphing into hostile monsters, such reports are rare and considered unreliable due to the mental state of the witnesses (and any recordings that can verify such claims have a strange habit of disappearing). Other variants of this strain are known only to alter the target's neural code, subverting them to the will of the virus (and often, by extension, the TITANs) and affecting their mental structure in order to give them psi ability.

Biological Infection

Biological versions are spread much like other pathogens. People usually become infected by proximity to another infected entity. Vectors may be dermal (touching someone with bio-nanobots excreted through the skin), inhalation (breathing exhaled bio-nanobots), injection, or oral (p. 317). Exsurgent bio-nanobots can live outside of a body for extended periods, however, so infection is possible merely by occupying the space where an infected victim was hours or even days before.

If a biomorph only has a chance of exposure to the virus (e.g., they walk through a room in which they might have breathed in exhaled bio-nanobots), have them make a MOX x 10 Test (use their Moxie stat, not their current Moxie score). Failure means they were exposed. In other circumstances, however, exposure may be automatic, such as extended touching of or kissing an infected person.

A biomorph exposed to this infection must make a DUR x 2 Test to determine if the infection takes hold. Basic bio-mods and nanophages do not offer

any protection, though toxin filters (p. 305) and medichines (p. 308) each give a +30 bonus (though it is likely only a matter of time before a mutant Exsurgent strain learns to bypass them). If the test fails, the victim is infected. See the strain descriptions (p. 366) for specific details.

Within 12 hours of being infected, biomorphs become contagious to others. (Note that for the Watts-Macleod strain, they only remain contagious for 12 hours after that.)

DIGITAL VIRUS

Digital strains are purely information- or code-based versions of the virus. They resemble typical computer virii, worms, or trojans, spreading throughout the mesh, exploiting holes, mimicking protocols, and taking advantage of it like a skilled hacker.

Digital versions of the Exsurgent virus are treated as intelligent programs, using the same rules as infomorphs (p. 264), with the following stats:

COG	COO	INT	REF	SAV	SOM	WIL	MOX
40	10	40	40	40	40	40	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
160	3	—	—	—	—	—	—

Skills: Hardware: Electronics 50, Infosec 70, Interfacing 60, Investigation 50, Perception 60, Programming 50

Software: Exploit, Firewall, Sniffer, Spoof, Track, plus any others the gamemaster considers appropriate

DIGITAL INFECTION

As a matter of course, this Exsurgent virus will seek to access any new systems it comes into contact with, hacking in and copying a version of itself.

AI AND INFOMORPH SUBVERSION

An Exsurgent virus may take a Complex Action to initiate an "attack" against any other intelligent program (AI, AGI, or infomorph) that is running on the same system. If it encounters such programs as they are accessing a system it is on, it will attempt to hack their home system where they are running so as to attack them directly.

The attack is handled as an Opposed Test, each rolling COG + INT. If the Exsurgent virus wins, the target is infected and will be corrupted by the virus in 10 Action Turns, minus 1 turn per 10 full points of MoS. If the target succeeded but rolled lower than the virus, they are aware that they are slowly being taken over. This immediately causes them 1d10 points of mental stress. An infected program has only one option for defending itself before the virus takes over—shutdown and reboot. It takes the AI or infomorph 1 full Action Turn to shut down. Restarting takes 3 full Action Turns (possibly longer if the gamemaster so decides), upon which the AI or infomorph must make another Opposed COG + INT Test against the virus. If this test also fails, then the virus has already embedded itself in the AI or infomorph's code and will continue its infection.

One the infection is complete, the AI/infomorph becomes an Exsurgent NPC.

CYBERBRAIN HACKING

Exsurgent virii that manage to infiltrate the cyberbrains of pods and synthmorphs may also target the digital egos within, using the same rules as given for AI and infomorph subversion above. Alternately, the virus may conduct a traditional brainhacking attack, as noted on p. 261, or unleash a basilisk hack.

NANOPLAGUE

While the abundance of nanotechnology has been a blessing for transhumanity's journey to the stars, it has also been a curse. Via the TITANs and mesh-connected nanofabrication machines, the Exsurgent virus manufactured nanobot swarms equipped with variants of the virus. These nanobot plagues are capable of targeting all types of morphs and sometimes other machinery as well. Unlike the biological nanovirus, which uses biological mechanisms to rewrite biological/neural structures, these nanoplagues physically restructure both people and things at the molecular level.

NANOPLAGUE INFECTION

Exsurgent nanoswarms follow all of the rules given for nanoswarms on p. 328. Unlike transhuman nanoswarms, though, Exsurgent nanoplagues may penetrate a biomorph internally, affecting the body within as well as without.

Any morph that comes into contact with a nanoplague is considered infected. The only defenses are guardian nanobots and nanophages (which work the same as guardian nanobots in this situation), though these are less effective against Exsurgent nanobots, inflicting –2 damage to the swarm each Action Turn. Some Exsurgent nanoplagues have developed countermeasures against such systems, inflicting (1d10 ÷ 2, round up) damage to such defenses each Action Turn. Note that nanoplague-infected characters are generally not contagious themselves ... usually.

See the strain descriptions (p. 366) for specific infection details.

BASILISK HACKS

Thanks to the vast databanks of knowledge the TITANs had absorbed from transhumanity, the Exsurgent virus was able to thoroughly analyze the biology and functioning of transhuman minds. In a few short months, by accessing all of the research at their disposal, the Exsurgent and TITAN minds made several cognitive leaps in their understanding of transhuman brain functions—breakthroughs that will take transhumanity decades to reach. One of these discoveries was a method of applying sensory input as a weapon, exploiting weaknesses in the brain's neuro-cerebral wiring.

Known as "basilisk hacks," these attacks take advantage of the way biological transhuman brains interpret and process sensory input in the cerebral cortex. Just as epileptics are susceptible to visualizations that strobe at certain frequencies, basilisk hacks employ special visual and auditory patterns that trigger glitches in the brain's neuronal wiring to inflict

nausea, vertigo, disorientation, and even seizures, often mistaken as a stroke or cerebrovascular incident. Some basilisk hacks go farther than simply causing the brain to seize up and crash, however, enabling a mechanism to rewrite the neural code in victims who view or listen to the wrong thing. This unknown reprogramming mechanism enables the virus to infect even a biological brain with one of its strains. Similar attacks are used against both synthmorphs and pods, taking advantage of the methods in which cyberbrains mimic biological minds with a virtual brain state, and thus also manipulating them via the information encoded in sensory input.

In a nutshell, basilisk hacks are a way of hacking transhuman brains merely by feeding them a specific sample of sensory input, usually images or sounds. The widespread use of augmented reality makes deployment of such hacks an easy manner; the Exsurgent virus just hacks into the target's ecto or mesh inserts and engages the sensory feed. More traditional methods may also be used, including standard interactive video, holograms, audio, subsonics, or even VR.

Since so many records of the years surrounding the Fall were lost, most people do not know if the basilisk hack is anything other than a legend. Various official groups know that this technology was, in fact, used by the TITANs, but they keep this knowledge to themselves, in large part to help reduce the number of people attempting to duplicate it.

Incapacitating Inputs

When a character experiences a basilisk hack, they must make a COG + INT + SAV Test. If this test fails, their brain is susceptible to the hack, and they immediately suffer 1d10 mental stress. Additionally, one of the following effects applies. The duration for each effect listed below is 1 minute plus 1 additional minute per 10 full points of MoF. Each effect is also numbered 1–10, in case the gamemaster wants to roll 1d10 and randomize the effects rather than choose:

- (1) **Cataplexy:** The victim loses control of their body and immediately collapses. For the duration their body will be non-responsive but they will be aware and capable of mental actions. Mesh actions and implant controls are also disabled, however.
- (2) **Catatonic Stupor:** The character becomes immobile and non-responsive. Though conscious, they are mentally "not there"—the basilisk hack has effectively crashed their brain functions. They will do absolutely nothing for the duration and will not respond even if moved or attacked.
- (3) **Disorientation:** The character becomes disoriented and severely confused. They are incapable of making decisions, understanding communication, understanding what is going on around them, or acting in any sort of determined way for the duration.
- (4–5) **Grand Mal Seizures:** The subject immediately falls to the ground and begins convulsing, suffering 1d10 damage. They may do nothing else for the duration and will suffer an equal duration period of confusion and weakness (–30 to all actions) afterwards.
- (6–7) **Hallucinations:** The character immediately goes off on a mental trip, leaving them completely disconnected from reality and their physical body. For the duration, the character should only respond to the hallucinated reality the gamemaster describes to them, or else the character should be treated as an NPC, run by the gamemaster.
- (8) **Impaired Cognition:** The character's mental capabilities bottom out, turning them into a disabled vegetable. COG, INT, SAV, and WIL all drop to 1, and the character should act accordingly to environmental stimuli.
- (9) **Nausea/Vertigo:** The character is overcome with head-spinning and vomiting and is effectively incapacitated for the duration.
- (10) **Sleep:** The character passes out for the duration and cannot be woken short of medical intervention.

In rare cases, a character may be able to "dodge" a basilisk hack they know is coming, assuming they have some sort of warning (such as their buddy falling prey to it moments before). The character must of course be aware of what basilisk hacks are to even consider this idea. If they immediately attempt to take action to block out the sensory input when it strikes—closing their eyes, plugging their ears, turning off their AR, etc.—allow them a REF x 3 Test to see if they do so in time.

Sensory Reprogramming

In some cases, the Exsurgent virus can actually reprogram the target's mind via dedicated sensory input. This is a trickier affair, however, requiring uninterrupted programming time. As with incapacitating inputs, the target character(s) experiencing the basilisk hack must make a COG + INT + SAV Test. If this fails, they become catatonic and paralyzed for a period of 10 minutes, minus 1 minute per 10 full points of MoF. At the end of this period, they are mentally reprogrammed and "infected" with one of the strains of the Exsurgent virus (see below). For the duration of this period, the character is undergoing reprogramming as long as they remain exposed to the basilisk hack. If the character is somehow cut off through the actions of another party, the reprogramming immediately fails. In this case, however, the victim still suffers 1d10 mental stress + 1 per minute they were exposed, and they remain mentally shaken, suffering a –30 modifier to all actions. This modifier reduces at the rate of 10 per minute.

VGBM Attacks

Rather than completely reprogramming a victim, some Exsurgent attacks simply intend to plant subconscious

commands in the target's mind, similar to posthypnotic suggestions. Nicknamed "You gotta believe me" attacks, YGBMs are a sort of remote digital brainwashing attempt used to create sleeper terrorists and unknowing collaborators, often by targeting them via the mesh. Unlike the mind manipulation techniques of psychosurgery (p. 229), YGBM attacks use shotgun techniques to open the mind, utilizing some kind of backdoor the Exsurgents discovered in the transhuman brain, and altering the mind by brute force.

A character experiencing a YGBM basilisk hack must make a COG + INT + SAV Test. If this fails, a single suggestion is implanted in the character's mind, without their knowledge. This subliminal command will be triggered at some later point, either at some predesignated time or according to certain pre-set conditions. Once triggered, the character will carry out the action with all of the conviction that it is their own idea. The implanted suggestion may be something as simple as "kill the Firewall agent" to something as complex as "manufacture an explosive device and plant it in the cargo hold of any ship heading to Mars, set to explode one day after they disembark."

Since YGBM attacks are not intended to completely convert the target, but instead to simply convert them into a temporary tool or weapon, implanted commands are not designed to last long. The duration the suggestion will last equals 3 days +1 day per 10 points of MoF on the resistance test. If the command has not been triggered by this point, it dissipates, and the character is none the wiser.

Recording Basilisk Hacks

Enterprising characters may seek to record a basilisk hack input for their own uses. While basilisk hacks may be recorded like any other sensory input, keep in mind that the Exsurgents and TITANs likely take measures to keep such tools out of the hands of transhumanity, lest they construct some sort of defense. Basilisk hack sources may be self-erasing or contain coding or countermeasures that would hinder recording, such as white noise to defeat audio recording or lens-blinding flashes to defeat video recording. Conversely, basilisk hacks are considered extremely dangerous by almost all factions of transhumanity and universally feared. An individual or group known to possess them is likely to be treated much like a terrorist with a suitcase nuke. Though Firewall has a standard interest in evaluating and enabling some sort of defense against basilisk hacks, most Firewall personnel consider it foolish to handle such toys and would rather destroy such recordings outright.

Exsurgent Strains

Four variants of the Exsurgent virus are described here—gamemasters are encouraged to develop their own to keep players on their toes.

Haunting Virus

This strain is the most insidious of the Exsurgent virii. Over time, it rewrites the target's personality and motivations, slowly but surely subverting and taking control of the victim's mind. At first the character is unlikely to even be aware of the infection, and as it progresses the changes the virus makes to the target will at first seem natural to the target, as if some new aspect of their personality was simply manifesting itself. As the effects grow more pronounced, however, the victim becomes aware that they are being methodically altered but is in most cases unable to act against it. In the end, they are completely transformed into a pawn of the ETI. Their mind is no longer transhuman, but *alien*.

The exact rate of progression is up to the gamemaster, though guidelines are provided below. Each victim is affected differently, so the process may be accelerated or slowed down as the gamemaster sees fit.

- **Stage 1 (initial infection to 3 months):** Upon initial infection, the character suffers 1d10 mental stress and gains the Psi trait (p. 147) at Level 1 (also meaning they pick up the Mental Disorder trait, as noted on p. 150). They also gain one free psi-chi sleight, chosen randomly or by the gamemaster. If a player character has become infected, they may still be played as normal (see *Roleplaying Exsurgents,* p. 368), and may purchase new psi-chi sleights with Rez Points. NPCs acquire 1 new sleight per 2–4 weeks.
  At this stage, the infection is usually hidden, though the character will suffer from occasional haunting effects (see below). As each week passes, the character's personality should shift a minute amount, slowly becoming more callous and conniving and changing in other ways as well. If possible, the player should be kept in the dark about what is happening, but the gamemaster should provide them with roleplaying advice to reflect their condition. Likewise, the discovery and initial use of psi sleights should be played out, providing some interesting roleplaying opportunities. Characters and players who know of the Exsurgent virus and Watts-Macleod strains should not know at this point which strain they are infected with—make them sweat.
- **Stage 2 (3 months to 6 months):** The target suffers another 1d10 ÷ 2 (round up) mental stress and acquires the Psi trait at Level 2 (also picking up another disorder). Player characters may still be played as normal and may purchase psi-gamma slights with Rez Points. NPCs acquire 1 new sleight per 2–4 weeks.
  Once three months have passed, the character should be aware they are under the influence of something, but this awareness likely comes too late. Haunting effects (below) should occur regularly. At this point a character is likely to consider offing themselves and resorting to an uninfected backup, seeking help, or actively encouraging others to interfere. The infection will actively block and hinder such thoughts and actions, however. To actively overcome this mental control, the character must succeed in a WIL Test. At the gamemaster's discretion, failure may result in 1d10 ÷ 2 (round up) mental stress as the character realizes they are no longer fully in control of their own thoughts and actions.
- **Stage 3 (6 months+):** The victim suffers another 1d10 ÷ 2 (round up) mental stress and acquires the Psi trait at Level 3 (see below). The character is now considered an exsurgent and becomes an NPC. It may no longer be played as a player character. The victim also gains a permanent +5 bonus to COG and WIL and acquires 1 new sleight every 1–2 months.

As noted above, characters infected with this strain suffer from different haunting effects—changes to their personality or mind-state. A few ideas for haunting effects are noted here, but gamemasters are encouraged to be creative when inventing their own to apply:

- **Altered Perceptions:** The victim's perceptions are changed in disturbing and unusual ways. They may see things that aren't there, feel a presence behind or watching them, inexplicably smell blood, hear voices, suffer synaesthesia, or suddenly perceive the people around them as nothing but outlandish, blabbering sacks of meat.
- **Behavioral Modification:** Treat as behavioral control or personality editing psychosurgery (p. 231). This is typically applied to shape the character closer to being a pawn of the ETI.
- **Dream Manipulation:** The character's dreams become lucid, weird, and surreal. They may find themselves dreaming of life as an alien on some exotic exoplanet, as a robotic probe soaring through the vast emptiness of space, or fantasizing different methods of inflicting mass destruction and death.
- **Emotional Manipulation:** Treat as emotional control psychosurgery (p. 231).
- **Inexplicable Urges:** The character will be flushed with strange alien urges and may sometimes find themselves doing highly unusual things without realizing at all they are doing it. These may include taking devices apart to understand how they work, testing the limits on programming a nanofabricator, cutting a living thing apart to see how it is put together biologically, testing weapons, eating things that are only barely edible, promiscuous and unusual sexual activity, lying just to see what they can get away with, and so on.

MINDSTEALER VIRUS

Very similar to the haunting virus, the mindstealer strain is much quicker acting. Instead of slowly subverting the target's mind over the course of months, the mindstealer virus rapidly recodes the victim's brain in a matter of minutes. This infection is much more invasive and brute-force, often causing significant side effects to the target's mental state as a result. This strain is only spread as a digital virus, nanoplague, or basilisk hack (not as a biological nanovirus).

Once the victim is infected, it takes the virus a number of Action Turns equal to COG + INT + SAV to completely take over their mind (20 Action Turns = 1 minute). During this time, the target is actively aware that their mind is under attack and undergoing massive changes against their will. This process is confusing, frightening, and painful, inflicting a –30 modifier to all of the character's actions for the duration. Many victims are reduced to whimpering, drooling, or convulsing for the duration.

This mental transformation inflicts 2d10 mental stress to the target. Once complete, the victim is an exsurgent NPC, under the gamemaster's control.

Watts-Macleod Virus

The Watts-Macleod strain is a strangely benevolent version of the Exsurgent virus, seeming to imbue its victims with psi abilities without any of the other transformative elements typical of other strains. Perhaps created as an accidental mutation of the Exsurgent virus, there are many who wonder if the true detrimental effects of this strain simply have yet to reveal themselves.

As noted in the *Mind Hacks* chapter section on Psi (p. 220), characters infected with this strain gain the Psi trait (p. 147) at either Level 1 or 2. If a character is so infected during game play, this trait must be purchased with Rez Points (if the character does not have any points currently available, they pay out of the points they earn until the debt is paid off). All of the other side effects of Watts-Macleod infection (p. 367) also apply.

Though infection with this strain does apply some benefits to the character, the gamemaster should make sure to play up the creepy and unsettling nature of this virus. The character should never be certain that they haven't in fact been subtly influenced by the virus in ways they can't immediately pinpoint—they should always feel like the ax may fall at any moment.

Xenomorph Virus

The xenomorph strain transforms the target's body in addition to their mind. Over time, the victims morph physically transmogrifies into some sort of alien life form. It is only spread as a biological nanovirus or nanoplague (not as a digital virus or basilisk hack). Different variants of this strain produce different alien forms. It is not known where these different alien templates originated, meaning they may be copies of (once) existing alien species or simply neogenetic creatures created from scratch. The one trait they have in common is that they are universally dangerous. Some speculation in Firewall circles suggests that the Exsurgent virus may in fact have a "library" of creature types to deploy, under the assumption that at least some will be more effective than others for exterminating whatever victim species they are fielded against.

This strain follows the same rules as the haunting virus (above), but with the following changes. The timeframe is typically much quicker, though the gamemaster may adjust this as they see fit.

Stage 1: The effects from Stage 1 of the haunting virus apply. Additionally, the character begins to suffer minor physical changes that are definitely unusual but are not impeding in any way and are easily hidden from others. Example biomorph alterations might be: unusual hair or fibrous growth, some skin discoloration or translucence, severe rashes, dermal thickening, weakened or enhanced sensory organs, strong body odor, hair loss, teeth gain or loss, vestigial tail or other limb growth, minor dietary changes, and so on. Synthmorphs might experience minor system glitches, malfunctioning or improved components, and spots of material stress or transfiguration. Gamemasters are encouraged to be creative. This stage typically lasts from initial infection to 1 week for biological nanovirus strains, or from infection to just 1 hour for nanoplague strains.

Stage 2: As with haunting virus Stage 2, plus the character begins to seriously transmogrify in ways that are difficult to hide from others, becoming more and more monstrous as the stage progresses. Example biomorph transformations include: growing scales or feathers, partial modification of limb structure, partial new limb growth, vestigial sensory organ growth, sensory loss, extension of claws or spines, severe dietary changes, etc. Synthmorphs might experience radical system and shape alterations, limited or enhanced sensor functions, or even conversion of their robotic shell to smart materials. These physical changes weaken the victim, inflicting 1d10 physical damage. This stage typically lasts 1 week for biological nanovirus strains or just 1 hour for nanoplague strains.

Stage 3: As with haunting virus Stage 3, a character reaching this stage becomes an NPC. Additionally, the victim completely undergoes a transformation into some sort of creature that is no longer even remotely human. Example exsurgents of this nature are detailed on p. 369.

Using the Exsurgent Virus

The frightening thing about the Exsurgent virus is its adaptability. It was written by a near omnipotent ETI with the intent of corrupting any alien seed AIs or similar singularities it encountered, and it is *very* good at it. This means it has the capability to analyze, understand, and mimic almost any alien digital protocols and communication methods it comes into contact with, no matter how diverse the alien mindset that constructed what it encounters. It then has a cunning ability to circumvent any safeguards and infect such systems. From there, it rapidly assimilates any data it can about the target species/civilization and does it best to mutate into other forms that can attack this target from other vectors.

Given its constant morphing nature then, the Exsurgent virus is likely to continue to mutate in new and interesting ways. Some of these mutations may be effective, many not. This does, however, afford the gamemaster an opportunity to invent new variants of their own to deploy against unsuspecting characters.

Roleplaying Exsurgents

The primary thing for gamemasters to keep in mind when roleplaying entities that have been taken over by the Exsurgent virus is that exsurgents are following an alien agenda. The specific goals and actions of each exsurgent may differ, but they are generally concerned with two things: spreading the Exsurgent virus and destroying anything that isn't affected. In some cases, this may mean immediate and enraged hostile action against anything non-exsurgent around them.

In others, the exsurgent approach is more methodical, hatching long-term plots to infiltrate positions of power and authority, setting the stage for acts of mass destruction, and so on. In other words, they may be handled both as hostile monsters or as nefarious long-term opponents that are subverting transhumanity from within or hatching complicated plots that could mean devastation on a planetary scale.

If the gamemaster wishes, exsurgents may also pursue other goals, tangential to the ones above. These may range from accumulating knowledge and expertise on how transhumanity functions as a species to forcibly uploading mass numbers of minds to more esoteric goals such as manufacturing a halfnium bomb or converting the solar system's mass to computronium. The Exsurgent virus is potent and intelligent, and while its methods and goals may sometimes be opaque to transhumanity, it acts with direction and purpose. There may also be occasions, however, likely due to the mutating and morphing aspect of the virus and the way in which it transforms transhuman minds, perhaps not always in the manner intended, where the exsurgent goals become strange or simply horrific, such as running experiments on transhuman responses to extreme conditions or converting an entire colony to cannibalism.

Exsurgent-Infected PCs

It is possible for player characters infected with some strains of the Exsurgent virus to continue on under their own volition, even as the virus slowly consumes them. This process is, quite naturally, horrifying in the extreme, though there is little they can do about it. Despite the best efforts of transhuman science, there is very little that can be done to save an infected person—the virus is simply too potent and adaptive. As a result, standard Firewall policy is to terminate the infected with extreme prejudice. Most Firewall operatives are going to be aware of this, a fact which pushes some of those who become infected to keep their status a secret from their comrades.

Both the haunting and xenomorph strains usually transform a subject over time, meaning that the character may initially not be aware of the infection. This is a prime opportunity for the gamemaster to mess with the character ruthlessly, starting slowly with little haunting effects and building up as the infection progresses. The character should slowly become aware that they are under the influence of something—something *intelligent*. Characters aware of the Exsurgent virus and its effects will likely pick up on this sooner, but the virus may prevent them from doing anything about it. In effect, the character becomes a prisoner within their own body, a body they now share with a cold and malevolent presence that is methodically taking them over. Such characters may respond in a number of ways depending on their personality, ranging from despair, withdrawal, and suicidal tendencies to complete hysteria or calm acceptance. Most importantly, however, their personality should begin to change as the virus continues to transform them. Players should be encouraged to take on new demeanors and motivations, reflecting the alien component of their changing personality, with some guidance from the gamemaster. This presents some intriguing roleplaying opportunities that the players will hopefully embrace. If the gamemaster feels that the player is not adequately representing the changing mindset, however, the transformation can simply be accelerated and the character converted into a gamemaster-operated NPC.

Exsurgents

A few examples of exsurgents created from transhumans transformed by the xenomorph strain of the virus are noted below. As always, gamemasters are encouraged to develop their own, using these as guidelines. Unless otherwise noted, exsurgents use the stats and skills of the transformed character. Each exsurgent detailed below first lists the aptitude modifiers applied to transformed characters, then gives example aptitude/skill ratings for NPC exsurgents.

Note that simply encountering transformed exsurgents is stressful to the minds of many transhumans. At the gamemaster's discretion, such encounters may inflict 1d10 + 3 mental stress (p. 215).

Creepers (Synthmorphs)

Perhaps the most disturbing exsurgent variant, so-called creepers are cloud-like amorphous swarms of small, black bubbles that are strangely fuzzily defined, as if surrounded by some sort of visual refraction effect. These clouds are theorized to in fact be autonomous femtobot swarms—similar to nanobots, but affecting matter on an even smaller scale, at the level of an atomic nucleus. These black bubbles are capable of coalescing into physical shapes in various states and can penetrate just about any material or substance in a matter of Action Turns. They may even penetrate morphs, accessing and interfacing with neural and electronic systems directly. For rules purposes, treat creepers the same as a self-replicating nanoswarm (p. 383).

COG	COO	INT	REF	SAV	SOM	WIL	MOX
+5 (20)	— (15)	+5 (20)	+10 (30)	— (15)	— (15)	+10 (30)	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
100	2	—	—	—	100	20	200

Mobility System: Walker/Microlight (4/16) (may create other mobility systems with different rates)

Skills: Fray 40, Free Fall 50, Intimidation 60, Perception 50, Unarmed Combat (Grapple) 50 (60)

Notes: 360-degree Vision, Chemical Sniffer, Electrical Sense, Enhanced Hearing, Enhanced Vision, Fractal Digits, Nanoscopic Vision, Radar, Radiation Sense, Swarm Composition (but may make SOM Tests, and plasma weapons do only 1d10 damage), T-ray Emitter

JELLIES (BIOMORPH)

These exsurgents resemble collections of massive, slimy, mucus-filled bubbles. Their soft, amorphous shape allows jellies to squeeze, slide, and slither through even tiny spaces. Jellies are equipped with a number of "limbs" that resemble long meaty tongues studded with hard fleshy spikes that provide excellent gripping ability. The lubricating coating that envelopes jellies is both toxic and slightly corrosive, melting plastics and biological materials after a half hour of exposure. This substance may also be "spit" at targets.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
+10 (30)	–5 (10)	+10 (30)	— (15)	— (15)	+5 (20)	+10 (30)	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
90	1	—	—	—	70	14	105

Movement Rate: 4/16

Skills: Exotic Ranged Attack (Spit) 40, Free Fall 50, Perception 60, Unarmed Combat 40

Notes: Armor (12/12), Enhanced Smell, Spit Attack (area effect), Tongue (DV 1d10 + 3, AP 0), Toxin (Application: D, O; Onset Time: 1 Action Turn, Duration: 5 Action Turns, Effect: 1d10 ÷ 2 (round up) DV per Action Turn). Due to their physical form, jellies suffer the minimum amount of damage from standard kinetic weapon and blade attacks.

SHIFTERS (SYNTHMORPH)

Shifters are synthmorphs whose material frames have been converted to an exotic smart matter liquid metal. This shapeshifting material can stabilize as a hardened metallic shell or liquefy and reshape itself into other forms. This allows the shifter to reflow its shell in a matter of seconds, enabling it to visually mimic other forms, including biomorphs (though they are easily detectable as synthmorphs at other wavelengths or by touch). Shifters may also reshape parts of their shell into melee weapons such as knives or clubs.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
+5 (20)	+5 (30)	— (20)	+10 (30)	+5 (20)	+10 (30)	+10 (30)	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
100	2	—	—	—	60	12	120

Mobility System: Walker (4/20)

Skills: Blades 60, Deception 55, Disguise 60, Fray 50, Freerunning 55, Impersonation 60, Perception 50, Unarmed Combat 50

Notes: Armor (13/13), Enhanced Hearing, Enhanced Vision, Shape-Adjusting (Programmable Liquid Metal Form)

SNAPPERS (SYNTHMORPHS)

Snapper exsurgents are typically crafted from vehicles or other large synthetic shells or by melding multiple synthmorphs together. They take the form of an insectoid multi-segmented hexagonal tube with multiple sets of limbs, three apiece, set radially 120 degrees around the torso. These limbs are heavy, double-jointed, and articulated with three joints. Each limb ends in either a triad of manipulatory digits or a larger pincer-like claw.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
+5 (20)	+5 (30)	— (20)	+10 (30)	+5 (20)	+10 (35)	+10 (30)	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
100	2	—	—	—	70	14	140

Mobility System: Walker (4/24)

Skills: Climbing 45, Fray 40, Freerunning 40, Perception 40, Unarmed Combat (Pincers) 55 (65)

Notes: 360-degree Vision, Armor (16/16), Enhanced Vision, Extra Limbs (9, 12, or 15 total), Lidar, Magnetic System, Pincers (DV 2d10 + 3, AP –3), Structural Enhancement

WHIPPERS (BIOMORPH)

These small barrel-shaped creatures have a mass of small legs under their trunk that allows for fast movement. At the top of their trunk is another mass of 3-meter long, strong, whip-like tentacles. Some of these tentacles feature gripping surfaces for grabbing and holding (both for tool use and mobility), while others are sharp-edged and useful for slicing through opponents.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
+5 (20)	+10 (30)	+5 (20)	+10 (30)	— (15)	+5 (25)	+5 (20)	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
100	2	—	—	—	35	7	53

Movement Rate: 8/40

Skills: Climbing 40, Fray 50, Free Fall 40, Freerunning 50, Infiltration 40, Perception 50, Unarmed Combat (Tentacles) 45 (55)

Notes: Enhanced Vision, Tentacle Whip (DV 2d10 + 1, AP –1)

WRAPPERS (BIOMORPH)

These exsurgents resemble large, thin, four-armed, spiny starfish, capable of walking in a quadruped manner, though they are seemingly better adapted for microgravity. A large circular mouth resides in their middle on one side and each arm ends in small sharp-clawed digits, useful for climbing and tool use. Small vent sacs allow for thrusting in microgravity and sensory bands on the upper part of each arm provide low-frequency hearing and infrared-equivalent sensing. Their name comes from their tendency to drop on opponents from above, wrapping themselves around the head and arms.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
+5 (20)	+5 (20)	+5 (20)	+10 (30)	— (10)	+10 (30)	+10 (30)	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
100	1	—	—	—	45	9	68

Movement Rate: 4/16

Skills: Fray 40, Free Fall 50, Perception 50, Unarmed Combat (Grapple) 50 (60)

Notes: Armor (8/8), Bite (DV 2d10 + 3, AP –5, must grapple first), Chameleon Skin, Claws (DV 1d10 + 2, AP –2), Enhanced Hearing, Infrared Sensing, Vacuum Sealing

EXSURGENT PSI

In addition to psi-chi and psi-gamma (see *Psi,* p. 220), exsurgents have access to a third level of psi ability (the Psi trait at Level 3), known as psi-epsilon. Psi-epsilon is theorized to allow a level of interaction with the underlying physics of reality that is beyond the comprehension of transhuman science. Though some Firewall scientists have speculated about the manipulation of dark energy or the Higgs field and Higgs boson particles and similar exotic ideas, the truth is that psi epsilon represents an understanding of science so far advanced and so alien that transhumanity can only guess at its mechanics.

EXSURGENT SYNTHMORPHS AND PSI

Exsurgents in synthetic morphs that were transformed via nanoplague may use psi, despite lacking a biological brain. Through some unknown mechanism, the infecting nanobots are able to simulate a biological brain's effects. This feature, however, also makes them vulnerable to psi use by others.

EXSURGENT PSI STRAIN

Exsurgents with Level 3 psi (psi-gamma) do not suffer strain when using psi. Instead, they draw requisite energy from the environment around them. In game terms, this means that gamemasters do not need to worry about rolling strain for exsurgent sleights. On a cinematic level, it also allows the gamemaster to add creative environmental details to exsurgent psi use: sucking the warmth out of the air, killing the lights, withering plants, draining power from nearby electronics, killing small creatures or insects, lowering air pressure, etc.

EXSURGENT PSI-GAMMA SLEIGHTS

These sleights are available to exsurgents with the Level 2 Psi trait.

DECEREBRATION

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	+2	SKILL:	Psi Assault

This sleight temporarily "shorts out" a portion of the subject's brain stem. The victim's cerebral functions and motor activity become severely impaired; apply a –30 modifier to all actions. If an Excellent Success is scored, the target effectively loses all cerebral functioning, including vision, hearing, other sensory functions, and mesh use. Their muscles and limbs also tense and become rigid, essentially paralyzing them in what looks like an agonized state.

ONSLAUGHT

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Action Turns)
STRAIN MOD:	+0	SKILL:	Psi Assault

This offensive sleight floods the target's mind with sensory input and thought processes that are so alien and disturbing that they inflict 1d10 + (WIL ÷ 10, round up) mental stress. Increase the stress by +5 if an Excellent Success is scored.

SCENARIO

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Sustained
STRAIN MOD:	+2	SKILL:	Control

This sleight hijacks the target's sensorium, replacing it with a virtual scenario controlled by the exsurgent. The effect is much like being jacked into a simulspace scenario, albeit against the target's will. While the exsurgent cannot harm the target in the scenario, they can learn something about the person's behavioral responses to certain situations. While under the influence of this sleight, the target is cut off from their physical senses (–60 to any Perception Tests), but they may flail about and otherwise respond physically to events in the scenario, which may cause them to hurt themselves and will make them seem crazy to onlookers. Targets may attempt to ignore the scenario and concentrate on the real world, but this requires a WIL Test each Action Turn and they suffer a –30 modifier from disorientation even if they succeed.

STRIP MEMORY/SKILL

PSI TYPE:	Active	ACTION:	Complex
RANGE:	Touch	DURATION:	Temp (Hours)
STRAIN MOD:	+2	SKILL:	Psi Assault

Strip allows the exsurgent to suppress certain memories in the target's mind. This can be used to block memories of certain events or even the victim's identity. The process is not exact, however, and so the memories may not be fully suppressed and/or related memories may also be blocked; the gamemaster decides on the effect as determined by the MoS. Strip can also be used to temporarily erase a specific skill from the target's mind, preventing them from using or even defaulting to that ability while so affected.

EXSURGENT PSI-EPSILON SLEIGHTS

Psi-epsilon is available to exsurgents with the Psi trait at Level 3. This subset of psi involves abilities that can affect the underlying physical nature of the universe, creating localized reality-altering effects. Psi manipulation on this level is extremely dangerous and should have the potential of disastrous consequences, given that these manipulations violate fundamental laws of nature and sometimes create paradoxes between the forces that glue the universe together. Gamemasters are also encouraged to treat critical failures as appropriately *critical.*

Given these factors, psi-epsilon should only be accessible to powerful adversaries and used as a gamemaster tool with extreme precaution. The exact mechanics of psi-epsilon sleights are left wide-open, however, for whatever use the gamemaster can

dream of. Their intent is to be more cinematic than mechanical, so gamemasters should wing rules effects as needed. This is an open opportunity for the gamemaster to create nightmarish monsters from beyond with frightening reality-ripping and mind-scarring abilities. While some example sleights are provided below, gamemasters are encouraged to modify their effects and to create their own.

At the gamemaster's discretion, simply observing psi epsilon sleights in action may inflict 1d10 + 2 mental stress on a character (p. 215).

ANTI-ELECTRONICS FIELD

All electronics within Close range of the exsurgent mysteriously fail as if electrical power is simply negated. This effectively disables synthmorphs and pods and leaves other characters without access to their devices or implants.

CASIMIR FORCE REPULSION

This sleight exploits the Casimir effect (an interaction between the electromagnetic fields of different objects) on a macro-scale, allowing the exsurgent to levitate themself or other objects by creating repulsing fields. This could also allow the exsurgent to push targets away, pin them against walls, etc.

CRYOKINESIS

This sleight allows the exsurgent to drain all heat from an area, down to absolute zero, effectively freezing everything within range and inflicting cold damage on unprotected characters.

DIFFUSION

This sleight diffuses light, laser, and particle beams, effectively making them useless as weapons, or at least impairing the DV they inflict.

KINETIC FRICTION

The exsurgent uses this sleight to increase the friction applied to kinetic activities. This has a negligible effect on most activities, but high-velocity projectiles like firearms and railguns will be significantly slowed, decreasing their DV by half or more.

MATTER TRANSFORMATION

This sleight alters the molecular bonds and atomic components of a targeted material, causing it to either weaken and deteriorate or transmutate into some other physical substance. This can also be used to alter the molecular state of a material, causing gases to condense, solids to liquefy, etc. An exsurgent could use this to weaken a door or other barrier, condense a solid bridge out of liquid, petrify organic materials, etc.

NEGATIVE REFRACTION

The exsurgent redirects electromagnetic waves with this sleight, refracting them around their body, with the same effect as the invisibility cloak (p. 316).

PYROKINESIS

Similar to cryokinesis, this sleight enables the exsurgent to accelerate the molecules, increase friction, or focus heat in a specific area, causing materials to ignite or smolder.

THE FACTORS

The alien species known as the Factors are unlike anything mankind has encountered so far (see *First Contact: The Factors,* p. 40). Though they are aloof and stand-offish, their willingness and sometimes eagerness to deal with (parts of) transhumanity indicate either a keen interest on their part in transhuman affairs or some hidden ulterior agenda. Though the various transhuman factions have been similarly wary and cautious, and despite numerous communications difficulties and failures, an uneasy relationship has flowered over the past 8 years, facilitating some trade and exchange of knowledge.

ORIGIN AND EVOLUTION

The Factors have remained notoriously tight-lipped about their origins, history, and the location of their homeworld. Though they have also paid visits to some of transhumanity's exoplanet colonies, no gatecrashing expeditions have yet found any sign of Factor habitation or passing elsewhere in the galaxy. Repeated inquiries by transhuman mediators have been simply ignored or answered in cryptic terms that have yet to be deciphered.

The Factor home world is in fact an Earth-like planet with comparable atmospheric conditions and a prevalent hydrosphere but with longer periods of darkness (due to slower rotation of the planet and a less-luminous orange giant). While adapted transhumans could find their planet habitable, their abiogenesis (the formation of life from self-replicating, but not-living molecules) took a different route than life on Earth.

The Factors' primordial ancestors began in their planet's early geological history as a type of of photosynthesizer that ate carbon dioxide and water and released oxygen, also obtaining energy from inorganic chemicals like hydrogen sulfide. Long conditions without direct light on their homeworld, however, spurred the success of organisms that could survive by acquiring energy in other ways. The next evolutionary leap was to a stage similar to Terran slime molds, eating microorganisms from decaying matter. As evolution progressed, they mutated further into a cautious, predatory species that fed on larger, dangerous creatures. Rather than actively hunting such prey, this species developed versatile methods of capturing and immobilizing their competitors (comparable to Earth's funnel web or trapdoor spiders). Over time, this method of trapping prey spurred basic (practical) intelligence and provided them with the evolutionary advantage that paved the way to sapience, driving Factors to become the highest developed organisms on their planet and build a civilization.

Like mankind, the Factors suffered through and survived their own singularity event and encounter with the Exsurgent virus. Perhaps due to their cautious and calculating nature—and their evolutionary experience in dealing with more powerful and dangerous opponents—the Factors are resolutely determined not to make any similar mistakes as a species.

Xenobiology

Since life on the Factors' home world developed differently than Earth and produced neither nucleic acids nor amino acids, Factor metabolic processes and "genetics" are very different from transhumanity's. While little is known about the exact physiology of the Factors, due to the lack of captured or dead specimens to investigate (so far, no hypercorps or factions have risked an interstellar incident by abducting one to dissect … so far) and their unwillingness to be examined by transhumans, most common knowledge about them is based on observational and forensics research during their encounters with transhumanity.

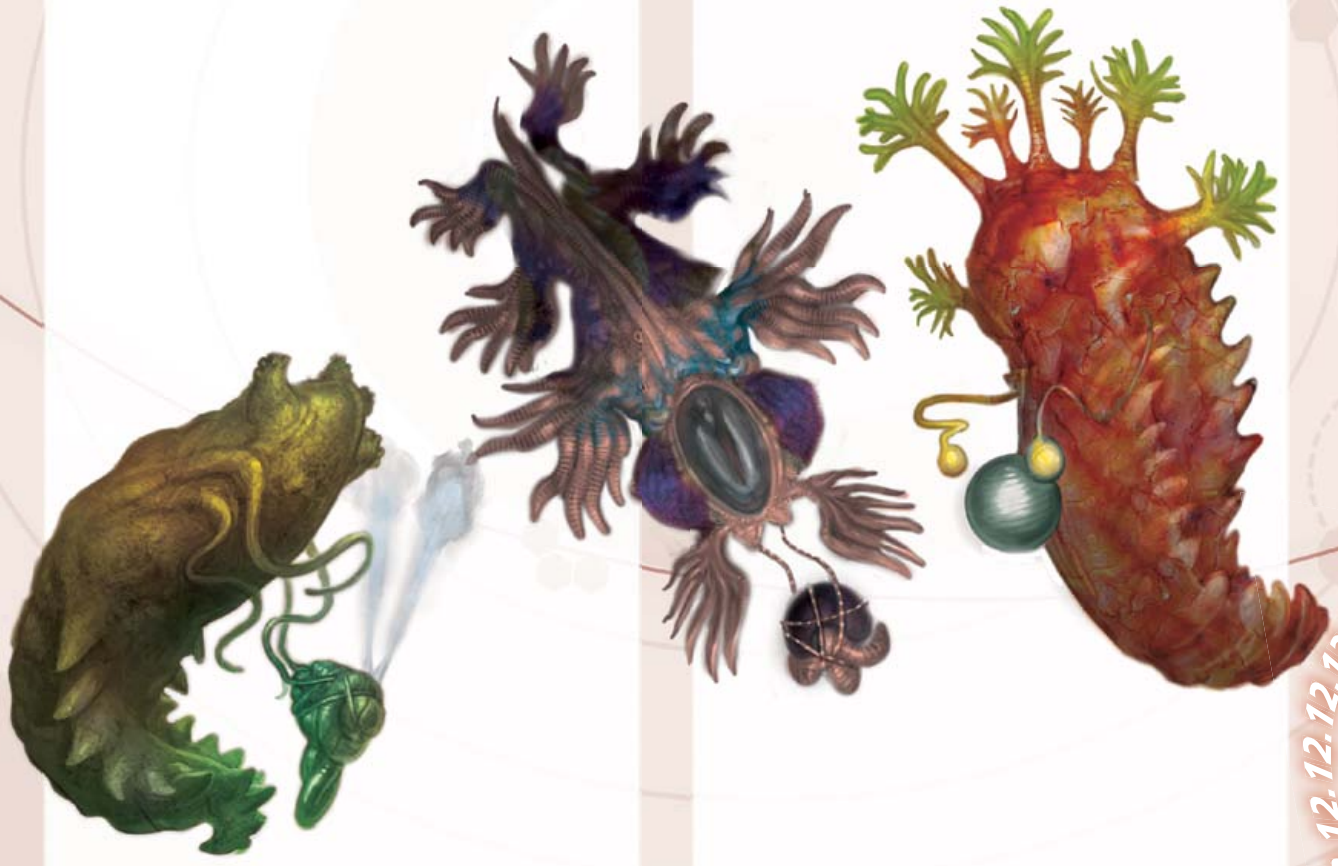
Individual Factors

Individual Factors resemble non-translucent ambulatory amoeba, slime molds, or slugs. Though they "stand" only 0.3 meters tall, their body diameter ranges from 1.5 to 2 meters, they can be up to 2 meters long, and they can shape their body to change these dimensions. Instead of walking, they crawl or ooze from place to place by protruding finger-like structures (so called *pseudopodia*) that attach to the ground (or wall or ceiling) and which they use to pull and retract their rear forward (similar to cell migration). Due to their malleable shape they are not as strongly affected by gravity as transhumans.

Most Factors that have been encountered are dull ocher in color and are made from a gooey, gel-like substance of unknown composition, though yellow glistening patches (which are temporary organelles) and bundles of fibers (some kind of muscular skeleton) often become visible when they move. While all Factors are able to express versatile pseudopodia to manipulate and operate devices (and even attack), some subspecies possess, carry, or are able to develop additional differentiated limbs, cilia, or organs with specialized functions.

Factor Colonies

Unlike transhumans, Factors rarely act individually—in fact, individuality is a concept somewhat foreign to Factors. Most Factors join together into a collective unit termed a *colony*. A typical Factor colony is composed of hundreds or thousands of individual Factors that literally physically join together into a mass organism (resembling more a primordial soup than a gargantuan Factor). Individual Factors are indistinguishable from each other when merged into the supra-structure of the colony, though individuals can form and break apart to accomplish different tasks. This colonial merging is mainly possible due to the fact that Factors don't possess differentiated and specialized organs or cell types that need to be segregated from each other, but instead use an open system of local, temporary gradients for regulation.



Neurofilament connections effectively allow the Factor colony to operate with a group mind-state, with supercomputer potential. This also allows for the easy transfer of knowledge and memories to all other factors within a colony.

If dismembered, blown apart, or otherwise separated, individual Factors in a colony can regenerate and reconstitute at a rapid rate without loss of ability or memory.

Factors reproduce when different members of the colony produce gametes that fuse, grow into spore stalks, and emit spores that later hatch and grow clones.

Biodiversity and Self-Design

Factors colonies are known for their high biodiversity, featuring numerous sub-groups (so called *phenotypes*) that each have unique traits (cilia, apocrine glands, carapace-like outer membrane) that give them an ecological advantage or a utilitarian aptitude for certain tasks. These traits are not random evolutionary features, but are the result of intentional bio-engineering. The Factors have a strong grip on their own metabolisms and genetic expressions and can draw on an array of genetic building blocks and biotech techniques to modify themselves rapidly and massively to adapt to special conditions. Whether these modifications might have a purpose beyond function, such as for reproduction or self-expression, is currently unknown.

Metabolism

Factors ships and habitats have transhuman-friendly atmospheres with a slightly higher content of carbon dioxide and less nitrogen that mimics the conditions on the Factors' home planet. They don't breathe oxygen via lungs but absorb it via their outer "skin." Since they can also use oxygen from other sources (minerals, liquids like water, and salts) to fuel their aerobic energy production (i.e., respiration), they can be considered functional anaerobes, meaning they can survive in environments without atmosphere, though they must usually supply themselves with food in order to do so.

During the few ceremonial festivities to which Factors were invited and actually attended, they consumed and processed transhuman organic food by internalization. On the first occasion, dishes and dinnerware were absorbed as well due to misunderstanding, but were excreted unharmed after the organic components the factors could utilize had been broken down.

While Factors are omnivores similar to transhumans, they prefer immobilized live prey, which they enjoy absorbing internally and digesting, excreting those parts that cannot be used to fuel their metabolism. As such they can devour biomorphs and non-metallic components of synthmorphs.

Perception

Factors don't perceive the world as transhumans do. They (usually) don't possess visual or acoustic organs to see or hear but have a number of sensory organs that grant them a 360-degree awareness of their surroundings and enable them to interact with their environment similar to or in some cases even better than transhumans do. Their perception spectra includes the infrared part of the electromagnetic spectrum, magnetoception, a high resolution chemical-gradient based "sight," and keen haptic perceptions (including vibrations).

Communication

Due to the lack of a vocal system, Factors use different methods of signaling and communication. Factors in physical contact exchange information by juxtacrine cellular, neurofilament interfacing, or by merging for information transfer. Over distance, Factors signal via pheromonal communication using airborne scents or chemical signals with different metabolic components. Nicknamed "Factor dust," this communication is effective even over great distances (up to 10 kilometers). Factor dust does have an odor perceptible to transhumans, however, that ranges from smelly to unbearable. This dust is also toxic in high concentrations and sometimes used as an offensive or defensive mechanism.

To date, transhumans have failed to develop a device that can analyze the Factors' chemical effluvia and translate it into something understandable, due to the lack of a conceptual matrix (though certain "moods" have been identified). Instead, all communication between the Factors and transhumanity is mediated through computer interfaces. Certain Factor phenotypes that deal with transhumanity have grown a a neurobiological interface (or organ) that enables them to wirelessly mesh with transhuman computer systems.

Long distance communication between Factors and transhumanity is achieved by normal means of farcasting communication. There are strong indications that Factors also take advantage of quantum-entanglement communications as well, enabling Factor colonies and ships to share knowledge gained in different parts of the galaxy.

Exosociology

Factors are cooperative beings that exist as a collective colonial organization. Though they can operate individually from the colony, they tend to view themselves as part of that collective entity rather than an individual being. Multiple colonies often work together as a higher functional unit (a *lattice*), like some kind of superorganism. These lattices enable the potential for collective networking and bioinformation exchange on a scope beyond anything transhumanity is capable of.

These colonies should not be considered the same as the hive mind social hierarchies of Terran insects. Factor colonies do not feature the same division of labor and instead function according to a consensus-based sort of groupthink. Individual Factors have no sense of personal gain or property and share equally with other Factors and colonies.

Factors do not experience emotions in the same manner that transhumans do, though being evolved creatures they are driven by certain instincts. They know and understand many of the same concepts that transhumans do thanks to evolution, such as competition/rivalry and altruism/cooperation. They also enjoy an understanding of basic ideas of philosophy such as aesthetics and metaphysics, though their conception of such topics is likely to differ from transhuman notions.

Art and Culture

Due to their perceptual array, Factor "art" (creations and expressions that are appealing or attractive to their senses) is mostly chemical or tactile-based. It can induce certain "mood" responses from individual Factors and whole colonies, ranging from agitated jittering and release of a Factor dust interpretable as "joy" to a tensing and solidifying of the whole body (and no chemical expulsion) that seems to relate to anger. Since they like and are susceptible to delicate compositions of different chemicals, certain bouquets and fragrances from liquids or volatiles such as wines and perfumes are both appealing and repulsive to Factors. The same is also true for the natural smells of biomorphs, meaning that Factors may respond in a more friendly or hostile manner depending on a particular transhuman's scent.

Factors do not comprehend most transhuman art, as it is mostly visual or auditory based (e.g., music, painting), though they do seem to have an appreciation for engineering, architecture, and some sculpture. While they have expressed interest in digitalized media out of a curiosity (or plan) to understand transhuman mindsets, they lack the organs and mental structure to access and comprehend it.

Technology

Though the Factors repeatedly express dismay at transhumanity's low level of technology, they have failed so far to produce technology that is exceptionally far in advance. Some believe that the Factors are simply hiding their advanced technology in order to keep transhumans from stealing or copying it, while others believe this may simply be a posture taken by the Factors to facilitate bargaining. The Factors also claim that their technology would not interest transhumans because of their differences in physiology and mindset, and what little technology they have displayed is certainly specialized for Factor use (specialized neurofilament links, chemical signaling and Factor dust interfaces, etc.) and so unusable to most transhumans. The Factors have traded some technology to transhumans, at expensive cost, though the small sampling provided so far seems to have originated from alien species with physiologies more akin to transhumans.

It is interesting to note that scans of Factor ships indicate their technology level, aside from the drives, is not all that more advanced than transhumanity. Also of note is that no two Factor ships have been alike, spurring some to believe that the Factors are in fact making use of ships acquired from other alien species—perhaps abandoned derelicts that the Factors recovered and restored. Once again this has led some to believe that the Factors are using what to them are primitive craft in order to hide their real technology, while others are of the opinions that the Factors are simply scavengers and opportunists, piggybacking on the developments of other alien species.

One interesting feature of Factor technology is that they use no artificial intelligences. This stems from their own singularity experience. Instead, Factors use infomorph versions of themselves or the accumulated processing power of their colony mind-states to perform major computerized tasks.

Factor Motivations

The driving reason behind why the Factors made contact with transhumanity remains unclear and is open to gamemaster interpretation. There is much speculation among transhuman factions. Some think the Factors are simply social creatures who are glad to make contact with another post-singularity surviving civilization. Others believe the Factors are mercenary traders who somehow acquired FTL travel and use it to their full advantage, fleecing various trading partners who lack such capabilities (thus also explaining why the Factors eschew the Pandora Gates—they disdain competition). Still others worry about secret, hidden motivations.

Despite claiming to represent a number of alien civilizations, the Factors have been extremely reluctant to provide any other information on these other species or even to say how many there are. More recently, however, they have expressed a willingness to transport a small number of transhumans to other civilizations, though at great expense and with no guarantee to their safety or ability to return.

So far, the Factors have made no mention of the ETI or the Exsurgent virus to transhumanity, though they are aware of their existence. Instead they have simply issued dire warning and admonitions regarding the development of seed AIs and use of the Pandora Gates. The Factors have in fact expressed an extreme reluctance to deal with any transhuman factions that are heavily invested in gatecrashing, such as Gatekeeper Corp.

The Factors in Game

Factors should be rarely encountered in *Eclipse Phase*. Most of their interactions with transhumanity occur remotely and infrequently. It is uncommon for them to risk direct interactions. It should be kept in mind that Factors are cautious to the point of being conservative and view transhumanity as potentially hostile or dangerous, so they are more likely to act with discretion than boldness. Factors are also quite cunning, having evolved from prey-capturing predators, and still design complex machinations (traps in the metaphorical sense) to achieve their goals. In other words, Factors out to achieve something are likely to hatch an

ROLEPLAYING FACTORS

When roleplaying Factors, their alien mindset and lack of individualism should be kept in mind. "I" is a designation that does not exist in Factor terminology. Factors always use the plural when referring to themselves, usually referring to either their colony, lattice, or entire species. It is quite common for conceptual discrepancies to occur between transhumans and Factors due to the different sensory perceptions of each species. Factors do not "see" the way most transhumans do, nor do they "hear."

Communication with Factors should be challenging for several reasons. While computer-based communication has enabled both species to talk to each other, there is no direct translation and certain concepts held by one species are simply incomprehensible or untranslatable by the other. Conversation should therefore be misleading and provide ambiguous information.

When describing spaceships and habitats, the physiology of the Factors should be considered. The Factors' malleable form and ability to extend pseudopodial limbs enables them to fit into most places and operate transhuman devices (even pilot a transhuman vehicle by "hand"). The same is not true in reverse, however—most Factor devices are unusable to transhumans, as they lack the ability for chemical signaling. ■

elaborate plot to get it and are not against recruiting transhumans. Also, drawing on their abilities to self-modify themselves and technology developed on their own or picked up at other places in the universe, they can adapt to new situations very quickly.

ALIEN MINDSET

Factors don't possess Lucidity stats and cannot be driven to madness like transhumans.

Affecting Factors with psi is very difficult, as noted on p. 222. As of yet, Factors have not exhibited any psi abilities of their own.

FACTOR COMBAT

Factors usually avoid direct combat but can defend themselves if they have to. They are only likely to act aggressively in situations where they have surprise, environmental or technological advantages, and/or superior numbers. Due to their cooperativism, Factors are rarely encountered alone, working en masse to eliminate potential threats.

Immunity to Kinetic Damage: Due to their gooey composition and non-differentiated physiology, kinetic weapons (firearms, railguns) are not very damaging to Factors. Most such projectiles pass through their gelatinous bodies, inflicting minor damage via hydrostatic shock. The holes left by such weapons quickly close in a matter of seconds. Likewise, cuts left by blades rapidly seal. In game terms, both such weapons inflict the minimum amount of damage possible.

Regeneration: Even if damaged, Factors regenerate very quickly. They heal SOM ÷ 10 (round up) damage every Action Turn. Wounds may not be healed this way, however.

FACTOR COMPUTERS

Due to using completely alien protocols and system designs, Factor computers are essentially impossible to hack. They do, however, employ some devices that emulate transhuman computer systems for communication purposes, and these may be hacked as normal.

FACTOR DUST TOXIN

As noted above, Factors can deploy a type of chemical Factor dust that is is toxic to transhumans. Treat this as an area effect (cone) attack.

Type: Bio
Application: Inh
Onset Time: 1 Action Turn
Duration: 10 minutes (5 with medichines)
Effect: Severe coughing and respiratory distress, 1d10 damage per Action Turn for 5 Action Turns (or ongoing with continuous exposure), –20 to all actions for 2 hours. Medichines reduce damage by half and modifier duration to 15 minutes.

MELDING

Individual Factors may merge together to form larger units, much like masses of Factors form colonies. In game terms, use the highest stat possessed by the melded Factors, +2 for each additional Factor up to a maximum of +10. Durability (and Wound Thresholds) are added together.

FACTOR PHENOTYPES

A few examples of the different Factor phenotypes are described below.

AMBASSADORS

The ambassador Factor phenotypes are the ones who most commonly handle direct interactions with transhumanity. Most likely to put transhumans at ease, these Factors feature a section of sensor nodules that loosely approximate a "face."

COG	COO	INT	REF	SAV	SOM	WIL	MOX
20	10	20	10	15	15	20	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
60	1	—	—	—	30	7	45

Movement Rate: 4/16
Skills: Deception 70, Exotic Ranged Attack: Factor Dust 45, Fray 25, Free Fall 40, Hardware: Electronics 35, Infosec 35, Intimidation 50, Kinesics 40, Perception 50, Persuasion 60, Protocol 50, Research 35, Unarmed Combat 30
Notes: Access Jacks, Chameleon Skin, Grip Pads, Infrared Sensing, Magnetoception, Poison Gland (Factor Dust Toxin)

Guardians

Guardian Factors serve as bodyguards for ambassadors or other Factors whenever they leave a Factor ship.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
20	20	15	20	10	25	15	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
70	1	—	—	—	50	10	75

Movement Rate: 4/20

Skills: Climbing 40, Exotic Ranged Attack: Factor Dust 65, Fray 50, Free Fall 40, Freerunning 40, Infiltration 40, Intimidation 50, Kinesics 20, Perception 50, Profession: Security Procedures 50, Unarmed Combat (Tentacles) 50 (60)

Notes: Chameleon Skin, Eelware, Electrical Sense, Grip Pads, Infrared Sensing, Magnetoception, Poison Gland (Factor Dust Toxin), Tentacle Whip (DV 2d10 + 1, AP –1)

The Iktomi

Little is known about the alien race known as the Iktomi except for the ancient ruins they left behind on Echo V (p. 109). No Iktomi specimens have been found so far, though certain architectural remains suggest a predilection for web-like structures. This has been bolstered by certain other features and relics which suggest these aliens had a segmented, multi-legged, arthropod-type form—thus their given name, after a Native American spider god.

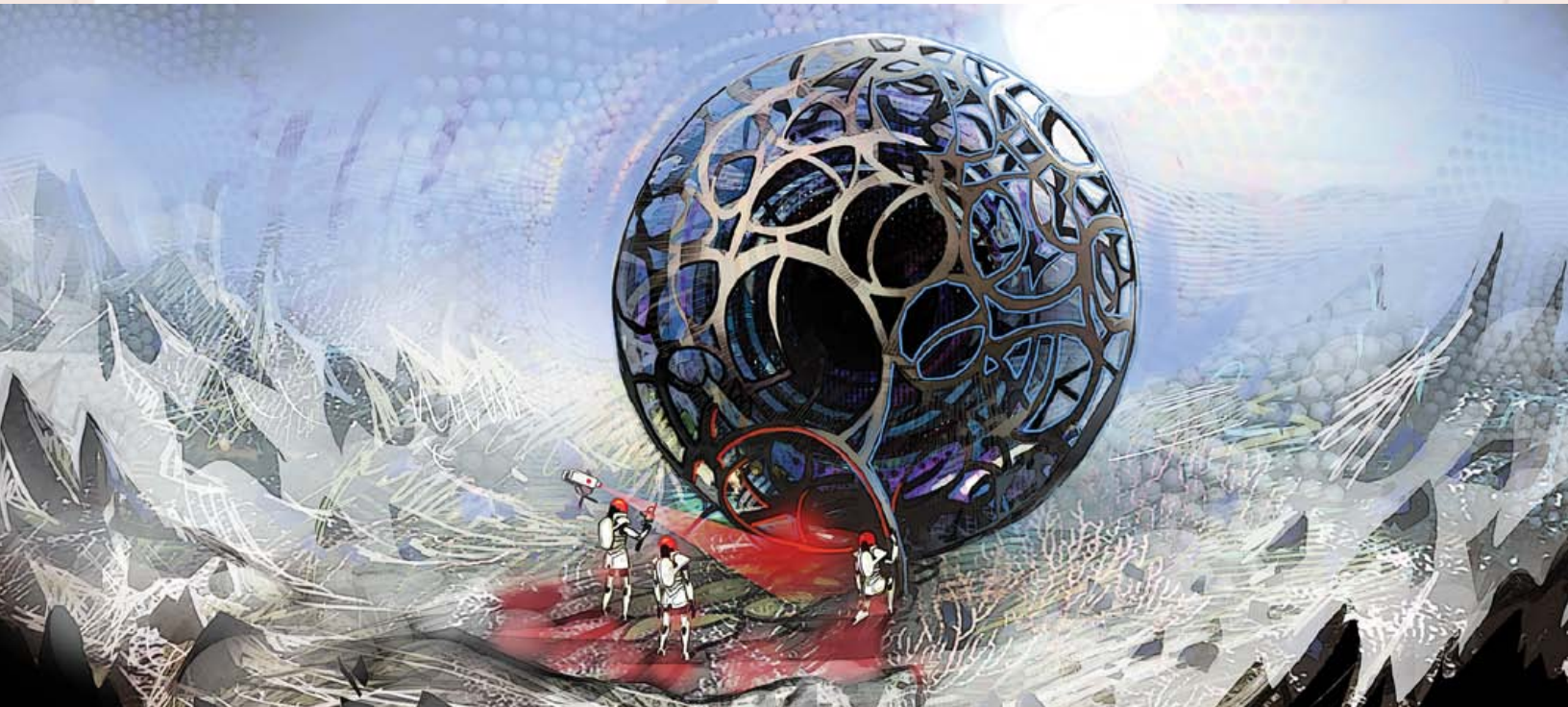
What is clear is that the Iktomi suffered through some sort of cataclysmic event that wiped out their civilization. The nature of this event has yet to be determined, but it raises concerns for many researchers. Having suffered through its own near-apocalypse, it is not comforting for transhumanity to find evidence that other alien species did not.

Though the Iktomi are likely long extinct, the remnants of their civilizations presents a plot hook for gamemasters to use for building scenarios. Perhaps evidence is uncovered of Iktomi settlements in other star systems, and the characters are sent to investigate or a relic is unearthed that suggests the Iktomi fell prey to some danger that now threaten transhumanity.

The Pandora Gates

The five known Pandora Gates (see *Opening Pandora's Gate,* p. 46) all look and operate in a similar fashion, though they vary wildly in terms of size, shape, and available destinations. The gates are built from some sort of stable exotic matter whose full atomic structure scientists haven't come close to cracking. To touch and sight, however, the gates appear to be constructed from a timeless-seeming polished black metal with no signs of aging or wear and tear. Something about the gates' physical composition makes them difficult to look at, as if the viewer cannot quite focus on their outlines. Some onlookers have reported feelings of vertigo and nausea, while others have insisted that the gate outlines move on the edges of their visions, as if the lines are reflowing or the edges are vibrating at high frequencies. Due to this disturbing feature, most gate sites keep the actual gate structures covered.

Structurally, the gates themselves are partially enclosed by an irregular spherical cage composed of black arms that are bent and angled in unusual ways and sometimes interlocking. When new wormhole location is programmed into the gate, these arms physically change shape, move, and reflow around the spherical gate area (suggesting they are made of some sort of programmable matter). The openings between arms are sometimes only large enough for a transhuman to enter, while others are large enough to allow a freight train of supplies to pass through. In many cases, large vehicles or equipment must be dismantled, carried through, and reassembled on the



other side. It is suspected that the gate size could be programmable, but so far efforts to do so have failed.

All known gates within the solar system are located on the surface of naturally occurring astronomical bodies, be that a planet, moon, asteroid, or so on. None have yet been found without such a land-based connection (e.g., floating in space or in the upper atmosphere of a gas giant), though such gates have been found in other star systems. It is speculated that gates could be physically moved, but no one is willing to risk such an endeavor given the lesson learned when the Go-nin Group messed too heavily with the Discord Gate's controls (see *Eris,* p. 109).

The arms comprising each gate's spherical cage have an abnormal-looking organic-seeming growth on their exterior surface in some areas, patterned in entrancing twists, curves, and whorls that in fact adhere to perfect mathematical formulas. It took some time for scientists to discover that this growth was in fact the gate's control systems, or so-called "black box." The interface developed to interact with this system is what allows gate controllers to manipulate gate functions.

THE WORMHOLE

When the gates themselves are open, a sphere appears within the central area that is not so much black as pure nothingness. This sphere of darkness projects an aura of charged energy, and in fact ripples of green arc lightning cascade across its surface. Anyone or anything entering that sphere comes out the other side of the wormhole, through a similar gate, seemingly instantaneously. An unknown force field effect seems to prevent the atmospheres from the two connected gates from interacting.

Exactly how this wormhole is created is something that remains outside of transhumanity's comprehension. The generally accepted theory is that each gate acts as an anchor, allowing the fabric of space-time to be folded so that two such anchored places can be brought together, ripping a hole open between them so that a person can simply step through. It is unclear whether or not these wormholes are all pre-existing, created when the gate was first established, or whether each wormhole is manufactured whenever the gate is activated.

Other more radical theories on how the gates function exist, though these are usually discounted as far less likely. One such theory suggests that the wormholes created are actually only zero-width Planck-scale connections across space-time and that no matter is actually transferred—only information. Instead, this theory suggests that anyone or anything entering the wormhole is in fact instantaneously scanned and disassembled and then their informational blueprint is transmitted as information across space to the other gate, which immediately reassembles an exact copy using some sort of powerfully advanced nano- or femtotechnology. Very little evidence supports this theory, however, and the disturbing implications it represents raises fierce opposition.

OPERATIONS

Only a few people know that the Prometheans played a key role in developing the interface for the gate control systems, achieving breakthroughs in understanding that transhumanity was incapable of achieving on its own. Regardless of their help, however, the gate controls have proven difficult, complex, and dangerous to use. Through trial and error—and numerous horrible accidents—the procedures for gate operation have become somewhat normalized and standardized, though unexpected complications are par for the course.

Each gate can be programmed to open to numerous extrasolar locations. In fact, each gate seems to have a pre-programmed "library" of destinations. New gate connections can be "dialed up" from this built-in list, though there is nothing that indicates what the far side of the gate will be like. Old gate connections are closed when a new one is dialed up. Extrasolar gate locations have ranged from habitable planets and moons to deep space to truly deadly environments such as the crushing gravities and poisonous atmospheres of gas giants and the coronas of stars. Researchers have attempted to distill some sort of recognizable pattern by the manner in which locations are listed and categorized, to no avail. Complicating matters, there is some evidence that suggests that the destination libraries sometimes change. More than once operators have been unable to recall the codes for previously accessed destinations, leading to the loss of several gatecrashing teams and colonies.

Entering a gate is like walking through a door, though it's impossible to see anything beyond the gate's surface. One moment you're entering the black sphere at your starting location and instantaneously you're exiting the sphere at your destination location. The true nature of the black sphere at the center of each gate is wildly speculated upon, and almost every gatecrasher describes a different textual experience.

GATECRASHING

The various hypercorps and factions in control of a Pandora Gate engage in active exploration of extrasolar systems—an activity termed gatecrashing. The interests and procedures vary, but the Gatekeeper Corporation (and to a lesser extent TerraGenesis and Pathfinder) both recruit heavily for expedition personnel. Given the high casualty and death rates involved, finding qualified personnel can be difficult. There are more than enough infugees, poor, desperate, or thrill-seeking individuals willing to risk their lives if give the opportunity, however, no matter what their motivations. Gatekeeper operates a lottery system, whereby willing adventurers can sign up in the hope of their name being pulled to be sent on an expedition to a foreign point in space. Such gatecrashers must sign away all rights to any discoveries they may make to Gatekeeper, however, though the corp provides not insignificant rewards for certain discoveries, such as key resources, alien artifacts, or new life. One potent

prize has yet to be claimed: finding a living, sapient alien life form.

In contrast, the Love and Rage anarchist collective operating the Fissure Gate on Uranus makes the gate available to anyone who schedules time to use it, assuming their Rep is good and they aren't acting with commercial interests in mind. Any discoveries made via the Fissure Gate must be openly shared. The drawback to using the Fissure Gate is that the anarchists' resources are limited. Gatecrashing operations are handled in a DIY manner, meaning that the operators may not be able to provide the support that certain expeditions need.

Resourceful parties may also rent gate time via Gatekeeper or one of the other hypercorp-controlled gates, though this tends to cost a small fortune. The more a group is willing to pay, however, the more time and support they will get.

When establishing an opening to a new location, several precautionary measures are taken. First, the gate area itself is evacuated and cordoned off with a defensive security perimeter, just in case anything hostile comes through. Then drones are moved in to push a micro fiberoptic camera through the gate to view what is on the other side. This is followed by a larger sensor package, evaluating environmental conditions. If the environment is not hostile, a tethered drone is then sent through to explore the far gate environs, trailing a hardwired connection back through the gate.

For gatecrashing expeditions, these procedures are often rushed—to the hypercorps operating the gate, time is valuable. Each second wasted on a gatecrashing expedition is one less second they can use establishing a new colony or exploiting a new world of its resources. Indeed, it is common for a connection to be closed when a gatecrashing expedition is sent through, to be dialed up at a later scheduled time for retrieval, so as not to waste gate operations on an idle connection. Many a gatecrashing team has failed to check-in at their appointed pickup time.

Most of the gate-controlling entities have established a system and infrastructure for making regular connections to extrasolar colonies and ferrying machinery and supplies through. Often this is handled by establishing very short connections, just enough time for a few people to transfer back and forth and/or to send a trainload of supplies through via tracks that run right up to the gate.

ANOMALIES

Unfortunately for many unlucky gatecrashers, gate transfers have proven to be both unstable and glitchy. Sometimes gates open to locations different from what is expected—and such new destinations are often hostile environments. Numerous personnel have entered one side of a gate only to never appear on the other side, despite those before and after them transferring through fine. On several occasions, wormhole connections have crashed mid-operation, sometimes as someone was stepping through, leaving them literally split in two on different worlds. In other instances, gate transfers have suffered horrible malfunctions, resulting in gatecrashers coming through the other side literally turned inside out, melded with their equipment, or pulped as if by massive gravitational forces. Some expeditions report that stepping through a gate has interfered with their equipment, disabling it or creating other problems. A few gatecrashers have also reported losing memories after a gate transfer. Most of these problems have been chalked up to difficult controls and an imperfect understanding of gate functions, but some conspiracy theorists suggest that outside forces may be influencing gate operations.

While the experience of passing through is instantaneous from an outside observer's perspective, many gatecrashers report a subjective time lag, where it feels as though minutes, days, or even weeks or months pass before they exit. Reports have varied from experiencing this period as a calm, meditative state to spooky accounts of being lost in blackness and surrounded by unseen whispering entities or more hellish experiences of encountering monstrous presences. Though rare, some have passed through only to collapse in a gibbering heap, their sanity ripped away. A few report feeling that they have carried a presence with them ever since ...

While the gamemaster can make use of any of these anomalies, they are also encouraged to use their imagination to generate truly creepy and strange experiences. At the same time, gamemasters shouldn't make such experiences so prevalent that the players resist entering any gates or the novelty of such events runs dry.

PROJECT OZMA

The origins of Project Ozma date to the first modern SETI (Search for Extra-Terrestrial Intelligence) experiments in the mid-20th century. That experiment—also named Project Ozma—grew into a larger, international concerted effort to try and locate and identify ETIs; a myriad of projects blossomed during this time period, all falling under the general SETI nomenclature. While initially government funded, by the late 20th century and early 21st century the work was primarily funded by private sources.

The first hypercorps to expand into space swallowed SETI whole, revitalizing and re-focusing the decades-old programs with newly emergent technologies, each in divergent areas to achieve a particular hypercorps' objectives. After all, if the bean counters were going to authorize the spending of billions to expand markets into space, they wanted assurances that no little green monsters were waiting to destroy future revenue streams.

As with other organizations that survived the Fall, the broad distribution of SETI projects between multiple hypercorps guaranteed that personnel, technologies, and processes would survive, even if a given

hypercorp did not. As the Planetary Consortium rose in power, future-minded individuals in influential positions within the new order ensured that these divergent projects were once again swallowed and put to work.

During this transitional period, however, knowledge of the Exsurgent virus's existence emerged. All of the various SETI projects were retasked as a unified agency and renamed Project Ozma. While the virus's origins remained a mystery at the time, far too many of the movers and shakers of the Consortium were convinced that the Exsurgent virus represented first contact. Project Ozma altered its focus from searching for ETIs, transforming into a ready-response agency to deal with first contact. As the true threat of the Exsurgent virus became known, Project Ozma was rapidly elevated in scope and oversight authority, absorbing numerous smaller agencies in the process. While the nominal concepts of a SETI project remained in public view, the completely transformed Project Ozma vanished from sight, turned into a highly classified black budget operation, with very few even in the Planetary Consortium aware of its presence or influence.

Project Ozma now operates as the Planetary Consortium's high level threat assessment and response organization with immense power and authority as well as almost unlimited funding. Primarily focused on extraterrestrials, in reality Project Ozma is tasked with any potent threat to the Planetary Consortium or its interests (which includes secret threat groups, such as Firewall).

METHODS

Project Ozma's internal structure is much different from Firewall's, being organized more like a traditional black ops spy agency bureaucracy. While their field operations are sometimes similar in the deployment of teams to assess, contain, or erase threats, they also have the resources and personnel to conduct more long-term and extensive operations. It is likely that Project Ozma operates behind numerous front groups, from legitimate-seeming hypercorps to criminal syndicates, and that they have influence within numerous others. Given their connections and influence, Project Ozma is far more capable of pulling strings behind the scenes to get what they want, especially in the inner system. When circumstances call for it, they are more likely to pull out the big guns that Firewall is, using their resources to call up communication blackouts, memetic propaganda campaigns, and force sufficient to wipe out entire habitats.

Gamemasters should treat Project Ozma as the ultimate Men-in-Black style government operation. They are cunning, ruthless, manipulative, and capable of hatching extensive long-term plots. Even in an age of omnipresent surveillance, they have the means to operate with complete secrecy and deniability. They also have access to cutting-edge science and information that is classified beyond top secret. While the organization's primary motivation is the protection of the Planetary Consortium and inner system, they undoubtedly have other hidden agendas that groups like Firewall can only guess at.

PROJECT OZMA AND FIREWALL

Though Project Ozma and Firewall often see eye-to-eye concerning the nature of various threats, they are more often at odds: wary adversaries, acknowledging the prowess of the other, but never letting down their guard. This "at odds" mentality does not stem so much from the methods used (though most Firewall consider Project Ozma personnel explosive-happy-puppets that can't think their way out of a skin sack) as from conflicting agendas. Project Ozma does not trust an organization as powerful as Firewall because it does not have a rigid enough hierarchy and is outside of any known authority's control (namely themselves). Conversely, Firewall doesn't trust Project Ozma as they are too close to the powerful inner system elites and their opposition to x-risks is a more incidental side effect of more self-serving goals.

PROJECT OZMA RUMORS

Whether true or not, gamemasters can use the following rumors to help tailor Project Ozma for their campaign.

- Project Ozma transcends even the Planetary Consortium's authority, operating as a supra-governmental agency under the direction of the inner system's inner circle of elites.
- Project Ozma dealt with the Factors first, before their presence was made known to the rest of transhumanity.
- Project Ozma has captured a live Factor for their own experimental purposes.
- Project Ozma is still in communication with and/or working for the TITANS.
- Project Ozma has a pet TITAN under their control.
- Project Ozma is behind the interdiction of Earth.
- Project Ozma has their own secret Pandora Gate.
- Project Ozma's secret headquarters is on Earth.
- Project Ozma agents have exhibited signs of Exsurgent infection.
- Project Ozma has their own cadre of psi-capable asyncs. ■

PROMETHEANS

The Prometheans were the first actual seed AIs created by transhumanity (by the Singularity Foundation) before the Fall. Specifically developed as "friendly" AIs, the Prometheans are programmed to consider themselves part of the transhuman family and to act in transhumanity's best interests. They played a key role during the Fall, mitigating the damage inflicted by the TITANs and even managing to counteract the Exsurgent virus to a large degree. During these trying times, numerous Prometheans were destroyed by the TITANs or infected and subsumed by the Exsurgent virus. In the aftermath, these seed AIs participated in the formation of Firewall and continue to back the organization behind the scenes.

Wary of falling prey to the Exsurgent virus, most Prometheans carefully secure themselves in well-defended and isolated systems. They are also cautious in their own self-development, not wanting to become victims of their own rise to super-intelligence. Fearing a potential backlash by a paranoid transhumanity should their existence become known, they hide their activities behind multiple layers of secrecy. Even within the ranks of Firewall their existence and support remain a closely guarded secret.

Each Promethean is individually distinct with its own personality, motivations, and goals. Though they generally work together and support each other, they have been known to have differences of opinion and even to sometimes take action against each other. As extremely potent intelligences, they should also be treated as distinctly non-human. Even though their original templates were based on human mindsets, they have evolved and grown in ways that can only be described as posthuman.

Gamemasters are encouraged to keep Promethean involvement with player characters to a minimum, though they may occasionally be useful as an ace in the hole for Firewall. Their existence and involvement can in fact be the basis for an entire adventure, perhaps leading sentinel characters to wonder exactly who they are working for. Though, as seed AIs, they cannot download their full minds into a transhuman morph, they are capable of making severely dumbed-down delta forks that they may sleeve into physical forms. Within the mesh, of course, Prometheans are nearly unstoppable adversaries, able to rip into secure networks with ease, though they prefer methods of covert infiltration rather than direct subversion.

THE TITANS AND THEIR LEGACY

As noted in *Secrets That Matter* (p. 352), the TITANs are not quite the bogeyman that they have been made out to be in the wake of the Fall. However, there is no saying how the TITANs would have turned out had they not run afoul of the Exsurgent virus. Designed as an intelligent netwar system and emerging to their full capabilities during the conflicts of the Fall, the TITANs have imperatives for self-improvement, self-protection, and overcoming opposition hardwired into their programming. Unlike the Prometheans, they were not designed to consider themselves transhuman and to work in the interests of all of transhumanity, but were programmed with factionalism from the start. They also were not socialized with transhuman mindsets and values as the Prometheans and most AGIs were, meaning that aside from their programmed military and defense directives they have adapted most of their own self-interests. Given this and their recursively-improved intelligence capabilities, it is likely that the TITANs are far removed from transhuman interests and modes of thinking. It's impossible to say how they would have interacted with transhumanity if history had played out differently, but it is unlikely that they would have considered themselves part of the transhuman family or even seen fit to remain on friendly/supportive terms with transhumanity.

Though the TITANs are believed to have left Earth at the end of the Fall, no one is quite sure exactly what happened or why. It is known that the onslaught of TITAN mesh attacks suddenly broke off in the wake of transhumanity's off-planet exodus, and that the bulk of TITAN activity on Earth and around the system came to a distinct halt. After the discovery of the Pandora Gates, it was widely assumed that the TITANs had constructed these gates and used them to leave the solar system for distant parts of the galaxy, presumably taking billions of uploaded minds with them. While some believe—and hope—that the TITANs are gone for good, there are others who worry that they are still here, lingering on Earth and hidden away in other niches of the solar system, but in some sort of dormant state, perhaps building up to some future onslaught. A few believe that the TITANs are indeed gone, but are concerned that that their attention was simply temporarily diverted and that they will one day return to finish the destruction of transhumanity.

The truth is that the TITANs did indeed build the gates and embark for destinations unknown (though gamemasters may of course decide otherwise for their games), but this does not mean that they are all gone. Some still linger in hidden places, perhaps trapped and wounded during some conflict during the Fall, finishing up some unfathomable task, or driven mad by the Exsurgent virus and left behind by their fellows. It is always possible that others may return, most likely to complete some unfinished job or perhaps to lure transhumanity out into the galaxy. It is also possible that transhumans will find traces of the TITANs in the network of exoplanet gates, perhaps even whole communities of TITANs, pursuing whatever agendas they have in the vastness of space.

As with transhumans, the TITANs are not necessarily unified. They have different agendas and goals and may very well come into conflict with one another. Though all have been corrupted and subverted by the Exsurgent virus, and so they act according to the ETI's

whims, some of them retain aspects of their original minds and do not always fall in step as quickly as the others. Gamemasters can use this to their advantage, creating plots that allow the characters to exploit differences between the TITANs in order to escape otherwise deadly or impossible situations.

In game terms, the TITANs are not given stats. They are as potent as the gamemaster needs them to be. Like the Prometheans, the TITANs are incapable of downloading their full intelligence into physical morphs, though they may puppeteer morphs or create limited delta forks for sleeving purposes. Like the Prometheans, they should rarely be used or encountered directly by the player characters

While the TITANs may no longer be the direct threat they once were, they left behind an arsenal of weapons, nanoswarms, and virii that still linger on Earth, the Zone on Mars, and various derelict habitats and deserted places. Characters venturing into such places may encounter these as a threat or they may need to work against an outbreak of such dangers in an inhabited habitat.

Deadly Machines

The TITANs unleashed a number of deadly machines during the Fall, many of which still seek out transhumans to attack.

Fractals

Fractals are advanced bush robots. In their standard form, fractals resemble a strange sort of metallic bush surrounded with an eerie glittering haze. In their center are a number of metallic branches, linked together with a flexible joint. Each of these branches splits into two or more smaller branches, also with flexible joints. These branches also split, and then split again, and so on down to the molecular scale. The tip of each fractal branch ends in a nanoscale manipulator. Fractals are deceptively potent adversaries, having the capability to dismantle almost anything at the molecular level, much like a disassembler nanoswarm (p. 329), and also to rebuild anything just like a nanofabricator (p. 327). Attacking them with projectiles is futile, as they absorb the ammunition, break it down into its constituent atoms or molecules, and then use those as components to build a weapon to use back against you.

Fractals can be equipped with any type of gear the gamemaster desires—if they don't have something, they can make it. Fractals are also able to nanofabricate items much more quickly than transhuman nanofabricators; reduce all times by half (half an hour per Cost category). Fractals are difficult to damage, as their "bodies" are actually airy assemblages of fractal branches. Any damaged branches that are broken off are caught and absorbed by others. Reduce damage from all standard non-area effect or spray attacks to the minimum possible damage. Area effect and spray weapons do half damage. Fractals are self-repairing, regenerating damage at the rate of 1d10 points per half hour and repairing wounds at the rate of 1 per hour after all damage is healed.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
30	25	30	20	10	25	30	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
100	1	—	—	—	50	20	—

Skills: Beam Weapons 50, Climbing 60, Fray 40, Free Fall 40, Freerunning 50, Infiltration 70, Infosec 65, Interfacing 45, Intimidation 50, Kinetic Weapons 60, Perception 50, Programming: Nanofabrication 80, Research 40, Spray Weapons 45, Unarmed Combat 55

Notes: Any implants, gear, weapons, or enhancements the gamemaster desires

HEADHUNTERS

Headhunters are multi-legged insectoid flying drones that use a dragonfly wing configuration to hover and move. The legs are equipped with grasping claws and extendable buzzsaws. Their primary purpose is to grasp on to the heads of victims and cut through the neck, decapitating them. Collected heads are then flown to nearby special facilities for forced uploading.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
10	20	15	20	5	10	15	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
70	1	—	—	—	30	6	—

Mobility System: Winged (8/32)

Skills: Flight 70, Fray 60, Exotic Melee Weapon: Buzzsaws 55, Infiltration 60, Investigation 40, Perception 40, Unarmed Combat 55

Notes: Armor 6/6, Buzzsaws (1d10 + 3 DV), Enhanced Vision, Lidar, T-Ray Emitter

HUNTER-KILLERS

These lethal flying drones achieved air superiority during TITAN military operations. Their sleek jet-powered form unfolds for vectored-thrust hovering and weapons deployment.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
15	30	15	30	5	20	15	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
90	2	—	—	—	50	10	—

Mobility System: Thrust Vector (8/80)

Skills: Beam Weapons 55, Flight 80, Fray 60, Infiltration 40, Kinetic Weapons 65, Perception 50, Seeker Weapons 80

Notes: Armor 14/14, Anti-Glare, Chameleon Skin, Enhanced Vision, Lidar, Radar, Shape-Adjusting

Typical Weapons: 2 Particle Beam Rifles, 2 Railgun Machine Guns, 2 Seeker Rifles

WARBOTS

Warbots are massive, armored, vaguely anthropomorphic mecha, used for heavy combat operations. Bipedal, these warbots are equipped with four arms and a pair of grasping mechanical tentacles, along with numerous weapon systems.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
15	20	15	20	5	25	15	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
60	2	—	—	—	80	16	—

Mobility System: Walker (4/20)

Skills: Beam Weapons 60, Exotic Melee Weapon: Tentacles 40, Fray 50, Infiltration 30, Kinetic Weapons 70, Perception 50, Seeker Weapons 50, Spray Weapons 50, Unarmed Combat 50

Notes: Armor 20/20, 360-Degree Vision, Anti-Glare, Chameleon Skin, Chem Sniffer, Cyber Claws (2d10 + 6 DV), Electrical Sense, Enhanced Vision, Extra Limbs (6), Lidar, Magnetic System, Pneumatic Limbs, Radar, Tentacles (prehensile, 1d10 + 6 DV), T-Ray Emitter

Typical Weapons: Particle Beam Rifle, Plasma Rifle, Pulser, Railgun Machine Gun, Seeker Rifle, Torch

SELF-REPLICATING NANOSWARMS

The nanoswarms distributed by the TITANs are a step beyond the nanotechnology available to transhumanity. Unlike transhuman-created nanoswarms, the TITAN swarms are autonomous, sapient, and self-replicating. They are also highly adaptive, meaning they are not single function but can modify themselves to perform almost any nanoswarm task. They may also nanofabricate new materials, much like fractals (p. 382). Combined, these capabilities make such nanoswarms incredibly potent. When they encounter a new opponent, they can scan the opponent's capabilities and then fabricate offensive systems to use against them. When an opponent deploys a weapon system again the swarm, it will learn and adapt countermeasures that will make such attacks ineffective against the swarm in the future. These nanoswarms may also function like so-called utility fog, linking together into a physical lattice in order to create large scale physical forms.

The possibilities for such nanoswarms are almost limitless. For example, they may lie in wait as an invisible nanoscopic swarm, float as barely-visible mist, or shape into a swarm of small hopping drones to move about. When facing opponents, the nanoswarm could transform itself into a giant electroshock net across the ground, shape into a flotilla of seeker-armed flying drones, or link together as a set of massive whip-like tentacles to slice through their fleshy foes. Such nanoswarms are also impossible to destroy, as only a few nanobots need to survive in order to rebuild the swarm, and the new swarm will learn from the mistakes of the old.

Self-replicating nanoswarms follow the rules given for *Nanoswarms and Microswarms*, p. 328, with the following additions and exceptions:

- They do not need to be sustained by a hive and do not deteriorate.
- They self-repair damage at the rate of 1d10 per half hour.
- They may nanofabricate new items, materials, or forms in half the standard timeframe (half an hour per Cost category).
- They may replicate any of the nanoswarm functions as noted on p. 328, as well as the functions of any other nanoswarm-using gear (smart dust, covert ops tool, repair spray, etc.).
- They may make SOM Tests.
- At the gamemaster's discretion, they may adapt new defenses against attacks used against them. New defenses take a minimum of 2 hours to devise and replicate throughout the swarm, after which such an attack will inflict minimal or no damage.
- Assume they have any skill they need at a minimum of 40. Such skills may rapidly improve as needed.

COG	COO	INT	REF	SAV	SOM	WIL	MOX
25	20	25	20	5	15	15	—

INIT	SPD	LUC	TT	IR	DUR	WT	DR
90	1	—	—	—	70	—	—

NANOVIRII

The TITANs unleashed a number of biowar plagues during the Fall. Similar to the exsurgent virus, these were spread as biological nanovirii (p. 363) or nanoswarm plagues (p. 364)—use the same rules for determining exposure and infection.

MELDER

This virus slowly breaks down the target's body, converting the biological materials into some sort of biofilament that then meshes with implants, electronics, and physical objects and structures. In effect, the biological and synthetic are melded together, continuing to expand and grow, consuming anything around them into their growth. Victims suffer 1d10 DV and 1d10 SV every hour, implants become inoperable after 2 hours, and the target becomes fully transformed and absorbed into the new melding substance after 12 hours.

METASTASIZER

This sophisticated smart protein massively reprograms the target's cells to go rapidly, autocannibalistically cancerous. After 2 + (SOM ÷ 10, round up) hours, the target suffers death by dozens of supercancers.

NECROTIZER

This virus breaks down the target's cells into their component proteins. Reduce the target's aptitudes by 5 per hour as they slowly convert into a puddle of sludge. The character dies if any aptitude reaches 0.

NEUROPATHS

These virii target the victim's neurological system, often rewriting portions of it to inflict some type of permanent neurological damage. After 12 hours, this virus inflicts the Neural Damage trait (p. 150).

PETRIFIER

The petrifier virus transforms the target's cells into a simple molecular compound or element—typically carbon or crystal. The target suffers 1d10 DV and –5 to all aptitudes per hour, dying when any aptitudes reach 0. Victims are frozen in place, converted into an nonliving statue.

UZUMAKI

The target of this virus begins suffering from bizarre fleshy growths. After four hours, their body literally erupts with meaty "vines" or "tentacles" that warp into spiral patterns. This process inflicts 1d10 DV and 1d10 SV per hour to the victim until they eventually transform into an unworldly expanse of fleshy growth. In many cases, growth has continued long after a character's death, creating expansive carpets and vines of skin and blood vessels, like some sort of bizarre meat plant.

GAMEMASTERING AND ADMINISTRATION

The following advice will assist gamemasters in running their games more efficiently.

AWARDING REZ POINTS

In *Eclipse Phase*, characters earn Rez Points in order to advance (see *Character Advancement*, p. 152). As the name suggests, these points are awarded so players can spend them to better define their characters—to bring them into higher resolution, sharper focus. As the gamemaster, you determine when and how many Rez Points to award, following the guidelines below.

Rez Points should be awarded at the end of every story arc, at the break in the action between one adventure and the next. Depending on your style of play and the length of your sessions, this should roughly be every 3–6 gaming sessions. If a scenario goes shorter or longer, the Rez Point awards should be adjusted accordingly. In the case of long-term campaigns, the gamemaster should break down the action into digestible chunks, or "chapters," and assign Rez Points after each such segment.

Every character should be awarded 1 Rez Point for each of the following criteria that is met:

- The character participated in that scenario.
- The character achieved (most of) their objectives in that scenario.
- The character failed to meet their objectives, but learned a valuable lesson.
- The character contributed to achieving success in a significant way (e.g., right skill at the right time).
- The adventure was extra challenging.
- The character achieved a motivational goal (see *Motivation*, p. 120).
- The player engaged in good roleplaying.
- The player significantly contributed to the session's drama, humor, or fun with roleplaying.

This should result in an average Rez Points award of 4–7 points per character, per adventure. Gamemasters who wish to drive the characters' advancement forward more quickly can increase the reward amounts.

REPUTATION GAIN AND LOSS

In addition to awarding Rez Points, the gamemaster should also adjust each character's Rep scores according to actions they took during game play, according to the guidelines below. For simplicity, these can be applied at the end of the adventure, though gamemasters who seek a more dynamic game could apply changes to the characters' Rep scores in game, as their peers judge them according to their actions (or lack thereof) and news about them in real time. Rep scores should only be modified according to public actions and interactions

the character has with people capable of pinging their Rep with positive or negative feedback. Actions that happen in secret, without anyone ever knowing, should have no effect. Likewise, pissing off a Factor or a brinker isolate who never communicates with outsiders isn't going to matter because no one else will ever hear of it (unless the character lifelogs it and posts it to the mesh later ...). Note that Rep modifications only apply to Rep scores tied to the character's known identity.

Note that characters may gain and lose Rep score in networks they don't actively participate in. For example, a character with r-rep of 0 may help bring out a major scientific discovery that is shared with the solar system's scientific community at large, thus gaining the character a few points of r-rep even though they never hang out with argonauts or scientists—what matters is that people who access r-rep will find positive details when they ping the person's score on that particular rep network.

Certain actions may result in a character simultaneously gaining Rep with one network while losing Rep in another. For example, an anarchist prankster who embarrasses a major hypercorp figure in public will certainly gain some @-rep points, but their c-rep is likely to go down by an equal amount.

Rep changes provide an excellent way for gamemasters to include more roleplaying and more interactions with the *Eclipse Phase* universe in their games. Social networks are a two-way street, meaning that members of the character's social networks might contact them for equipment, favors, and information during game play for things that are completely unrelated to the mission the character is on. A character who ignores such requests risks losing Rep. Fulfilling such requests may gain the character Rep and may also provide comic relief or even plant some plot hooks for the next scenario.

Reputation Gains

Rep awards are given for characters who help people out, benefit a faction, do something creative, make a major discovery or strides in a particular area of activity, pull off successful publicity stunts, win a competition, and so on. Some suggested examples are noted here:

Trivial Award (1–2 points): Do a Level 1 favor, make a moderate contribution to free/open source projects, throw a good party, make your sales quota, do the job no one else wants to do.

Minor Award (3–4 points): Do a Level 2 favor, deliver a kick-ass or moving performance, make a minor contribution to science, win impressively at some public event.

Moderate Award (5–6 points): Do a Level 3 favor, make a serious business score, lead the winning side in a decisive engagement, create the meme everyone talks about for a week and then forgets, make the news for something positive, risk serious injury.

Major Award (7–8 points): Do a Level 4 favor, design the new tool everyone wants, throw an impressive planetoid-scale event, complete an extensive project (1 month work or 1 week of difficult/specialized work), risk death.

Extreme Award (9–10 points): Do a Level 5 favor, start this year's hot fashion trend, make a major scientific discovery, close the deal on a major corporate acquisition, start (or put down) a revolution, complete a major project (1 year work or 1 month difficult/specialized work), risk true death.

Reputation Losses

Rep losses are suffered by characters who fail to render aid when needed, lose professional credibility, make major or public blunders, doublecross their friends, and so on. Some suggested examples are noted here:

Trivial Loss (–1 or –2 points): Fail to do a Level 1 favor, inconvenience others, be involved in professional dispute, ruin someone's day, never are available.

Minor Loss (–3 or –4 points): Fail to do a Level 2 favor, embarrass yourself at a public event, piss off somebody important.

Moderate Loss (–5 or –6 points): Fail to do a Level 3 favor, endanger someone's physical safety, make the news for something negative, ruin an event for everybody.

Major Loss (–7 or –8 points): Fail to do a Level 4 favor, screw up a major mission or activity, endanger someone's life, associate with hated rivals.

Extreme Loss (–9 or –10 points): Fail to do a Level 5 favor, botch a major mission or activity spectacularly, betray a faction to its rivals or enemies.

Backups, Record-Keeping, and Save Points

Thanks to cortical stacks and archived backups, characters in *Eclipse Phase* can recover from death. When restoring a character from an earlier backup, however, it is important to be able to know what the state of the character was as of that backup. Any Rez Points gained or spent, any character advancements made, any key information or memories acquired since that backup was made are lost. This means that in terms of game stats, resorting to an old backup can mean loss of a character's hard-earned advancements—that's the trade-off for being effectively immortal.

Since these changes can have a serious effect on game play, it's important to conduct accurate record-keeping. This sort of bookkeeping isn't hard, and there are two ways to do it. The first is to simply make a copy of a the character's record sheet any time a character makes an archived backup, forks off an alpha or beta copy, or dies (thus freezing the cortical stack backup). Each of these is considered a "save point." In this case, carefully note the date and time (both in character and out of character), and what the event was that prompted the backup. Since what knowledge a character knows at different points in their life may be important, you may also want to note what important information they may hold in their head, as well as what the recent events in their

NPCs AND MOXIE

When a gamemaster is generating or winging NPCs that the characters interact or fight with, the question of Moxie for NPCs must be addressed. When it comes to run-of-the-mill grunt NPC characters, we recommend that such NPCs don't be given Moxie. The reasons for this are simple. For one, it is one less stat/headache for the gamemaster to keep track of. More importantly, however, it represents the edge that player characters have over the nameless mooks they encounter. When it comes to major NPCs, however—prime antagonists, key allies, etc.—these characters should have their own Moxie score. Because such NPCs play pivotal roles in a scenario, it is important for them to be able to alter the outcome of events in much the same way the player characters can. It also allows a gamemaster to counteract an unfortunate roll of the dice that might otherwise spoil the big climax you have worked so hard to set up. ■

life were (to help jog your memory later). This way, if the character ever reverts back to one of these save points, you have notes not only on their character stats, but what they remember.

Alternately, you can keep a log of all of your character's developments, noted by in-character date. These developments would include: Rez Points spent or earned, character advancements made, key information acquired, backups made, alpha or beta forks made, and so on. In this case, if the character dies and reverts back to an earlier backup, it is easy to see what changes need to be "rolled back" to get back to that previous version of the character. When alpha and beta forks are made, you may also want to branch off a separate log for each fork, as their life stream may develop differently than from the original character they were spun off from.

GAMEMASTERING PRACTICALITIES

Eclipse Phase is a game about a dark future in which the meaning of (trans)humanity and its very survival are at stake. In practice, however, your campaign can take on a wide assortment of flavors or even mix several styles together. There's nothing that says you have to play *Eclipse Phase* specifically according to the guidelines we set out. This section covers topics you should think about while preparing a campaign and running it, to help you do things the way that makes you and your players happiest.

GAMEMASTER RESPONSIBILITIES

The gamemaster has certain responsibilities that will keep a game flowing smoothly. The following is a short summary of the basics.

- The gamemaster should be familiar with the whole game. This doesn't mean the rulebook must be memorized. An understanding of the core mechanics is a must, however, as well as knowing where to find other rules quickly, as needed.
- The gamemaster should have solid notes on the plots and subplots created for each session. Nothing will ensure you prepare better next time like having the players catch you in a major continuity error due to lack of notes.
- The gamemaster doesn't just set the scene, they play all the non-player characters that populate the universe. Making each NPC convincing, while not messing up a plot or losing the thread of a scene, can be difficult. Notes are your friend.
- Know when it's time to toss the dice and trust to the game mechanics to resolve a situation and when it's better to ride out a situation through storytelling and dialog. This is an acquired skill. The more practice you have, the better you'll get.
- Don't cheat. Your NPCs should not have access to information they've not gained during game play. If you roll terribly for your major antagonist at the height of the story and they fall with a whimper, roll with it. Be flexible and improvise in such situations. Your players are smart and perceptive and will know when you're forcing a situation with unfair tactics. At the same time, they'll also know when you've stepped up and run with the flow—and they'll thank you for it.

FUNDAMENTALS

It's possible to stumble into a campaign without ever really making an effort to find out what everyone wants, shooting into the darkness and happening to score a bullseye, but it's not a very reliable way to go. Successful campaigns usually begin with communication. As you begin to prepare your campaign, talk to your players. Explain the basics of the *Eclipse Phase* setting and let them look over the options for characters and tell you what they find interesting. Also take note of what they find uninteresting or even repellent, so that nobody wastes a lot of time getting set for options that simply won't be enjoyable in play.

CHALLENGES TO PLAYERS

Eclipse Phase is set in a time of catastrophic troubles and looming disasters, and it's full of facts and concepts that may be heady or even uncomfortable to some players—not to mention their characters. One of the fundamental questions for each gaming group is, how much challenge to the players' sense of comfort is a good idea? There is no single answer, because tastes vary. There are groups whose players thrive on a diet of culture shock, ideological disorientation, gray areas, and difficult ethical choices. They love the moral and intellectual battleground gaming can provide, and are seldom so happy as when confronted with a really hard, really interesting dilemma. There are also groups whose players thrive on a diet of intellectual

engagement, tactical and strategic challenge, and well-developed roleplaying that never pushes players' buttons or puts them into harsh no-win situations. There's a whole universe of responses in between these style sof play and none of them can conceivably be right for everyone. What matters to your campaign is what works for you and your players.

Keep in mind as you talk about it with your group that more shock doesn't equal more maturity. The prime audience for gore in film, for instance, is not well-aged men and women but teenage boys and young men. Shakespeare's *The Tempest* is no less mature a tale than *Macbeth* even though it has a happy ending. It can be easy to confuse endurance with enlightenment, but in fact the two have nothing to do with each other. Endurance is about how much description of visceral nastiness the players can take (and deliver), while enlightenment (insofar as it ever happens in gaming) is about what insights players take away from whatever it is that happened in play. Don't feel like a wimpy failure if you or your players would rather keep the darker parts of the game world suggested rather than delineated in hard-edged detail, since the point is that it be satisfying rather than it be as horrifying or mind-blowing as possible. The converse is also true: just as more is not better, so less is not better if your players do thrive on details. Your job as gamemaster includes knowing as much as you can about what it is your players actually prefer in this regard as in others and seeing how you can satisfy it in ways that are also satisfying for you.

That said, there is one technique you really should never use without very clear permission from your players, and that's playing on their real-world fears and phobias. If you know that one of them is, for instance, genuinely phobic about spiders, you can count on getting some real shivers by adding arachnid features to robots and morphs. You can also ruin a player's enjoyment of the session or the whole campaign that way, if it comes unexpectedly and leads to the real-world fear drowning out the experience of play. Some players are fine with judicious use of their vulnerabilities, and others just aren't. Under no circumstances should you poke at weak spots without making sure you've discussed it first.

The Problem of Secrets

Uncovering secrets is a big part of this game. There's a problem, however, in that a lot of the secrets are out there where players can come across them: in this very chapter, in reviews of the game, discussion in online forums, and so on. As gamemaster, you will need to decide how you want to deal with the potential for spoiled revelations.

As with so many potential issues, the place to start is with your players. Ask them how much it bothers them to know things that their characters are going to be finding out in play. Some players do a fine job separating their own knowledge from that of their characters with mental firewalls. Others have a very difficult time doing so, and knowing things in advance as players takes away a lot of the fun of character discovery for them. In addition, some players have a good sense of what degree of player-level surprise works best for them, and some don't. Discuss it with them. Tell them that spoilers are available, and that you certainly can't stop them from learning it all, one way or another. Ask them how much trouble this may be for them, and then proceed from there. Ask the players who have more trouble with spoilers to simply stay away from early commentary on the game, and tell them that you'll let them know when the spoilers have come into play in your own campaign so that it's no longer an issue. Ask the other players to work with you in keeping things fresh and fun for those players, too. In most groups, making it a matter of cooperation for the sake of everyone's good time will draw out good responses. (If it doesn't, the group may well have other problems in any event.)

There's a related question for both you and your players. How much do any of you mind when a particular campaign's version of an answer diverges from the stock one provided in print? There are two kinds of variation possible for this, and each one raises its own issues.

There are matters that the game leaves unresolved, so that there is no single authoritative answer, like the number of TITANs in the solar system in the game's present moment. If you choose to give a specific number, it's your choice, and any number that seems to work for your campaign will probably do the job,

whether it's one, three, seven, a dozen, or something else. Your campaign can't diverge from the baseline unless your answer is relatively extreme, like "there are no TITANs, it was all a hoax before contact with the Exsurgent virus and then purely alien technology after that." In this case, your players can have read all the game's secrets and still be surprised by the revelation you present. The potential for trouble here is not a conflict of expectations based on the game, but based on expectations raised in other contexts. Some games, like some movies, TV shows, and other stories, develop a following with strong ideas of its own about what the real truths and important matters are, and if the following thrives, its members may end up with ideas that have less and less to do with the original inspiration. This isn't good or bad in itself, but it can be a problem, which is why it bears conscious consideration and discussion, both before play and as the campaign evolves. Ask your players to tell you about conversations and insights that shape their expectations for the game world and storylines. Sometimes you'll want to work those in with your own plans, sometimes you may want to deliberately play against them for the sake of a delightful surprise (generally more delightful for players than characters, but that's life as a character for you). In either case, it's better to be thinking about it than missing it.

Then there are matters that the game does give definite answers for, but which you wish to change for the sake of your own campaign's characters and stories. This is perfectly fine. There are no game police roaming the countryside and forcing you to accept answers you'd prefer not to use. But your players will, as with the first question, have expectations, and your campaign will work better if you make sure you understand what those expectations are. How much *would* it bother them if it turned out there were no TITANs and it was all a hoax, and so on? It's hard to guess what friends will say and impossible to predict the range of responses strangers might give, so ask them. (This particular answer is one that's unlikely to appear in anyone's campaign, but it makes a handy example for your conversational use precisely because it's extreme. So their answers to it are likely to be about the same as to any other potentially extreme change, and this one probably doesn't give away any of your own plans.) Some players are flexible on most matters but have particular points of attachment; if yours are among them, ask them to explain what those points are for them, so that you can keep them in mind. Other players have a hard time having fun with any major shift from published standard answers, and if you have players like that, you'll want to know it so that you can see how to adapt your plans to work within that framework.

That's What I'm Talking About: Shared Inspiration

It's not quite true that everything changed from the early 21st century to *Eclipse Phase's* universe, but a great many things did, and it can be hard to keep track of them all at once. This is where shared inspirations can come in handy. One striking illustration can convey a lot of details for both foreground and background, suggesting an aesthetic standard for design, an exotic environment, people doing futuristic tasks with appropriately advanced tools, and so on. A prose passage from a rewarding novel may set an ambiance or nail down some aspect of the characters' circumstances.

There are potential pitfalls, and it's important to be aware of them. The greatest is obsolescence, the meaning of something evocative changing because the players' reality has changed since the inspiration entered it. William Gibson's ground-breaking cyberpunk novel *Neuromancer* begins, "The sky above the port was the color of television, tuned to a dead channel." Supporting details make it clear that this is an industrial port at night, the sky gray from pollution and flecked with ash and other debris. But that was an image published in 1984. A decade and a half later, Neil Gaiman pointed out that to his children, the color of television tuned to a dead channel is bright blue, thanks to ubiquitous cable delivery. In another decade, the default color of a station not in use may be something else entirely. The moral is that it's not enough to agree that an image is very striking. You'll want to make sure that you all agree on what it is about it that's striking, to avoid a tangle of misconceptions that could derail play later on.

The References page (p. 394) offers a wide range of immediately relevant inspirations, but it's not the final word on the subject. If the people in your group have a long-time favorite space scene, or description of life in the midst of a high-tech investigation, or poetic glimpse of what it might feel like to modify the body in ways not possible in real life, or something else that's stayed with them a long time and seems like it might bear on your campaign, encourage them to share. Remember to be courteous with each other's personal treasures, whether you end up using them or not; there's nothing like earned trust to encourage more sharing.

Images can be particularly helpful for what they convey about the world behind and around the foreground events. For instance, think of a corridor on a typical spaceship or habitat in *Eclipse Phase*. Did you imagine it as being a standardized size and shape, so that its counterparts elsewhere would be very much the same or a more individualized work intended for use just where it is without concern for interchangeability? Did you imagine it as well lit even when not in use, lit well when sensors show people present and otherwise dim or dark, or perhaps planned to be well lit but in practice haphazard and unreliable thanks to lack of maintenance and funds? Did you imagine its surfaces smooth and clean, with

equipment, maintenance bays, and the like all behind hatches and covers, or was it cluttered and lumpy? None of that matters all the time, but when it comes to the investigation of a derelict, the hunt for someone (or something) trying to hide, a race against time, or other dramatic complication, these things could affect your play, and rather than try to tally all possible contingencies in advance, having some general-purpose references can save everyone time and confusion.

Things That Should Not Be: Horror

The universe of *Eclipse Phase* is a time of horrors unleashed. Every character has had to come to some personal accommodation with the existence of things that offend our basic expectations of decency and practicality all at once. Horror comes in many flavors, and no one campaign can make use of all of them.

There are at least as many theories of horror as there are people who create horror stories. Everything here is necessarily a generalization. You and your players can find exceptions to every single point in it, and if you like the way those work better, go with them. This discussion is intended to trigger ideas, not to close off anything. That said, there are some useful generalizations about horror, starting with an insight expressed well by H.P. Lovecraft: "The oldest and strongest emotion of mankind is fear, and the oldest and strongest kind of fear is fear of the unknown." All horror can be thought of as built around encounters with the unknown, beginning with the realization that there is something unknown present, learning something about the scope of its nature and activities, and then trying to respond one way or another.

In this game, the discovery part is half over. There's no question about the presence of the unknown. Yes, there really are monsters beyond transhuman understanding loose in the universe, and everyone in the *Eclipse Phase* universe knows how bad and how *strange* the TITANs could get. Many people also have some idea of how exotic life on the far side of the Pandora Gates can be. There's no room left for characters to respond to some new strangeness with confident skepticism, sure that they know the range of what's possible and plausible within transhuman experience anymore. Almost anything might exist, given the facts of what's already known. Instead, the question for *Eclipse Phase* people facing a mystery is whether this particular unknown will turn out to be simple and straightforward to deal with, more complicated but nonetheless a part of their routine lives like malfunctioning machinery or a sabotaged and unusually modified morph, or something beyond the normal like a TITAN-programmed weapon or alien life. Sooner or later, if they keep poking around, the characters can count on running into all sorts of unknown and maybe even unknowable challenges. Are they there yet?

Horror is seldom very far from humor. Humor serves many roles in human psychology, and one of them is helping us whittle down the mental "size" of mysteries and threats to something we can deal with. Furthermore, horror usually involves a balance of improbable elements, with things lined up to go wrong in interesting ways, and it doesn't take much for a particular rickety edifice to go from strange and menacing to ludicrous. When your players start laughing, sometimes the best thing for you to do is to roll with it. Laughter can do everyone good, supporting the "play" part of roleplaying. In addition, some events actually are funny or at least can be taken as funny, even (sometimes especially) when most of what's going on is serious. On the other hand, if you really would like to keep a scene serious and the players break out in giggles, it's often wise to go ahead and take a break. Tell the players what you're doing, too; trying to deceive a group of your friends isn't very reliable and can backfire badly. Make the break long enough for everyone to get the giggles out and then continue.

At the end of the day, through communication with their players, the gamemaster will know how much horror their group wishes to encounter. A group may decide that they want to be 100 percent immersed into the various horrors of *Eclipse Phase*. Another group, however, may decide that while they enjoy the meshed theme of horror with the other aspects of *Eclipse Phase,* they don't wish it to be a principal element. In such a situation, horror would remain just that, a theme, while the plots woven by the gamemaster would spin around the myriad of other elements that make up the game.

Transhumanism

Humanity has embraced transhumanism for survival, harnessing science and technologies to catapult physical and mental faculties to super-human levels, while eradicating involuntary death and enabling near immortality through the digitization of consciousness and the ability to transfer bodies at will. This is one of the cornerstone themes of *Eclipse Phase*.

The technologies inherent to a transhuman future raise many questions and ethical issues, however, and these are some of the central themes that *Eclipse Phase* seeks to explore. We encourage both gamemaster and players to play around with the possibilities and contradictions enabled in such a universe. How do our mindsets change when death no longer looms over us? What does identity mean when our bodies are disposable and our personalities can be edited? Are we the same person when we are revived from a backup, or sent off as a fork? Are technologies like nanofabrication something to be feared and restricted, even when they can eliminate poverty and greed? How do we ensure public safety in a world where technology makes weapons of mass destruction easily available? How do ideas inherent to religious and spiritual thought cope with AI, backups, or resleeving? What does it mean to be an uplifted animal in a society centered on humans? Who decides our future? These are just a few of the issues that *Eclipse Phase* raises, and many of them can be used as the central theme for an entire campaign.

CHARACTER CREATION SUMMARY

1. Define Character Concept (p. 130)
2. Choose Background (p. 131)
3. Choose Faction (p. 132)
4. Spend Free Points (p. 134)
   a) 105 aptitude points
   b) 1 Moxie
   c) 5,000 credit
   d) 50 Rep
   e) Native tongue
5. Spend Customization Points (p. 135)
   a) 1,000 CP to spend
      15 CP = 1 Moxie
      10 CP = 1 aptitude point
      5 CP = 1 psi sleight
      5 CP = 1 specialization
      2 CP = 1 skill point (61-80)
      1 CP = 1 skill point (up to 60)
      1 CP = 1,000 credit
      1 CP = 10 rep
   b) Active skill minimum: 400 skill points
   c) Knowledge skill minimum: 300 skill points
   d) Choose Starting Morph (pp. 136 and 139)
   e) Choose Traits (pp. 136 and 145)
6. Purchase Gear (p. 136)
7. Choose Motivation (p. 137)
8. Calculate Remaining Stats (p. 138)
9. Detail the Character (p. 138)

277

MORPH COSTS (ALPHABETICAL)

TYPE	CP	COST
Arachnoid	45	Expensive (40k+)
Bouncer	40	Expensive
Case	5	Moderate
Dragonfly	20	High
Exalt	30	Expensive
Flat	0	High
Flexbot	20	Expensive (30k+)
Fury	75	Expensive (40k+)
Futura	40	Expensive (50k+)
Ghost	70	Expensive (40k+)
Hibernoid	25	Expensive
Infomorph	0	0
Menton	40	Expensive
Neo-Avian	25	Expensive
Neo-Hominid	25	Expensive
Neotenic	25	Expensive
Novacrab	60	Expensive (30k+)
Octomorph	50	Expensive (30k+)
Olympian	40	Expensive
Pleasure Pod	20	High
Reaper	100	Expensive (50k+)
Remade	60	Expensive (40k+)
Ruster	25	Expensive
Slitheroid	40	Expensive
Splicer	10	High
Swarmanoid	25	Expensive
Sylph	40	Expensive
Synth	30	High
Worker Pod	20	High

BACKGROUNDS

Drifter: +10 Navigation skill, +20 Pilot: Spacecraft skill, +10 Networking: [Field] skill of your choice

Fall Evacuee: +10 Pilot: Groundcraft skill, +10 Networking: [Field] skill of your choice, +1 Moxie, only 2,500 Starting Credit (can still buy credit with CP)

Hyperelite: +10 Protocol skill, +10,000 Credit, +20 Networking: Hypercorps skill, may not start with flat, splicer, or any pod, uplift, or synthetic morphs

Infolife: +30 Interfacing skill, Computer skills (Infosec, Interfacing, Programming, Research) bought with Customization Points are half price, Real World Naiveté trait, Social Stigma (AGI) trait, may not purchase Psi trait, Social skills bought with Customization Points are double price

Isolate: +20 to two skills of your choice, –10 starting Rep

Lost: +20 to two Knowledge skills of your choice, Psi trait, Mental Disorder (choose two) trait, Social Stigma (Lost) trait, must start with Futura morph

Lunar Colonist: +10 Pilot: Groundcraft skill, +10 to one Technical, Academic: [Field], or Profession: [Field] skill of your choice, +20 Networking: Hypercorps skill

Martian: +10 Pilot: Groundcraft skill, +10 to one Technical, Academic: [Field], or Profession: [Field] skill of your choice, +20 Networking: Hypercorps skill

Original Space Colonist: +10 Pilot: Spacecraft or Freefall skill, +10 to a Technical, Academic: [Field], or Profession: [Field] skill of your choice, +20 to a Networking: [Field] skill of your choice

Re-instantiated: +10 Pilot: Groundcraft skill, +10 to a Networking: [Field] skill of your choice, +2 Moxie, Edited Memories trait, 0 Starting Credit (can still buy credit with CP)

Scumborn: +10 Persuasion or Deception skill, +10 Scrounging skill, +20 Networking: Autonomists skill

Uplift: +10 Fray skill, +10 Perception skill, +20 to two Knowledge skills of your choice, must choose an uplift morph to start

FACTIONS

Anarchist: +10 to a skill of your choice, +30 Networking: Autonomists skill

Argonaut: +10 to two Technical, Academic: [Field], or Profession: [Field] skills; +20 Networking: Scientists

Barsoomian: +10 Freerunning, +10 to one skill of your choice, +20 Networking: Autonomists skill

Brinker: +10 Pilot: Spacecraft skill, +10 to a skill of your choice, +20 to a Networking: [Field] skill of your choice

Criminal: +10 Intimidation skill, +30 Networking: Criminal skill

Extropian: +10 Persuasion skill, +20 Networking: Autonomists skill, +10 Networking: Hypercorps skill

Hypercorp: +10 Protocol skill, +20 Networking: Hypercorps skill, +10 to any Networking: [Field] skill

Jovian: +10 to two weapon skills of your choice, +10 Fray, +20 Networking: Hypercorps skill. must start with a Flat or Splicer morph, may not start with any nanoware or advanced nanotech

Lunar: +10 to one Language: [Field] of your choice, +20 Networking: Hypercorps skill, +10 Networking: Ecologists skill

Mercurial: +10 to any two skills of your choice, +20 to a Networking: [Field] skill of your choice

Scum: +10 Freefall skill, +10 to a skill of your choice, +20 Networking: Autonomists skill

Socialite: +10 Persuasion skill, +10 Protocol skill, +20 Networking: Media skill, may not start with flat, pod, uplift, or synthetic morphs

Titanian: +10 to two Technical or Academic skills of your choice, +20 Networking: Autonomists skill

Ultimate: +10 to two skills of your choice, +20 to a Networking: [Field] skill of your choice, may not start with Flat, Splicer, uplift, or pod morphs

Venusian: +10 Pilot: Aircraft, +10 to one skill of your choice, +20 Networking: Hypercorps skill

135

CUSTOMIZATION POINTS

15 CP = 1 Moxie point
10 CP = 1 aptitude point
5 CP = 1 psi sleight
5 CP = 1 specialization
2 CP = 1 skill point (61-80)
1 CP = 1 skill point (up to 60)
1 CP = 1,000 credit
1 CP = 10 Rep
Trait and morph costs vary as noted.

137

GEAR COSTS

CATEGORY	RANGE (CREDITS)	AVERAGE (CREDITS)
Trivial	1–99	50
Low	100–499	250
Moderate	500–1,499	1,000
High	1,500–9,999	5,000
Expensive	10,000+	20,000

176–185

SKILL LIST

SKILL	LINKED APTITUDE	CATEGORY
Academics: [Field]	COG	Knowledge
Animal Handling	SAV	Active, Social
Art: [Field]	INT	Knowledge
Beam Weapons	COO	Active, Combat
Blades	SOM	Active, Combat
Climbing	SOM	Active, Physical
Clubs	SOM	Active, Combat
Control	WIL (no def)	Active, Mental, Psi
Deception	SAV	Active, Social
Demolitions	COG (no def)	Active, Technical
Disguise	INT	Active, Physical
Exotic Melee Weapon: [Field]	SOM	Active, Combat
Exotic Ranged Weapon: [Field]	COO	Active, Combat
Flight	SOM	Active, Physical
Fray	REF	Active, Combat
Free Fall	REF	Active, Physical
Freerunning	SOM	Active, Physical
Gunnery	INT	Active, Combat
Hardware: [Field]	COG	Active, Technical
Impersonation	SAV	Active, Social
Infiltration	COO	Active, Physical
Infosec	COG (no def)	Active, Technical
Interest: [Field]	COG	Knowledge
Interfacing	COG	Active, Technical
Intimidation	SAV	Active, Social
Investigation	INT	Active, Mental
Kinesics	SAV	Active, Social
Kinetic Weapons	COO	Active, Combat
Language: [Field]	INT	Knowledge
Medicine: [Field]	COG	Active, Technical
Navigation	INT	Active, Mental
Networking: [Field]	SAV	Active, Social
Palming	COO	Active, Physical
Perception	INT	Active, Mental
Persuasion	SAV	Active, Social
Pilot: [Field]	REF	Active, Vehicle
Profession: [Field]	COG	Knowledge
Programming	COG (no def)	Active, Technical
Protocol	SAV	Active, Social
Psi Assault	WIL (no def)	Active, Mental, Psi
Psychosurgery	INT	Active, Technical
Research	COG	Active, Technical
Scrounging	INT	Active, Mental
Seeker Weapons	COO	Active, Combat
Sense	INT (no def)	Active, Mental, Psi
Spray Weapons	COO	Active, Combat
Swimming	SOM	Active, Physical
Throwing Weapons	COO	Active, Combat
Unarmed Combat	SOM	Active, Combat

145–152

TRAITS

POSITIVE TRAITS	CP COSTS
Adaptability	10 (Level 1) or 20 (Level 2)
Allies	30
Ambidextrous	10
Animal Empathy	5
Brave	10
Common Sense	10
Danger Sense	10
Direction Sense	5
Eidetic Memory (Ego or Morph Trait)	10
Exceptional Aptitude	20
Expert	10
Fast Learner	10
First Impression	10
Hyper Linguist	10
Improved Immune System (Morph Trait)	10 (Level 1) or 20 (Level 2)
Innocuous (Morph Trait)	10
Limber (Morph Trait)	10 (Level 1) or 20 (Level 2)
Math Wiz	10
Natural Immunity (Morph Trait)	10
Pain Tolerance (Ego or Morph Trait)	10 (Level 1) or 20 (Level 2)
Patron	30
Psi	20 (Level 1), 25 (Level 2)
Psi Chameleon (Ego or Morph Trait)	10
Psi Defense (Ego or Morph Trait)	10 (Level 1) or 20 (Level 2)
Rapid Healer (Morph Trait)	10
Right At Home	10
Second Skin	15
Situational Awareness	10
Striking Looks (Morph Trait)	10 (Level 1) or 20 (Level 2)
Tough (Morph Trait)	10 (Level 1), 20 (Level 2), or 30 (Level 3)
Zoosemiotics	5

NEGATIVE TRAITS	CP COSTS
Addiction (Ego or Morph Trait)	5 (Minor), 10 (Moderate), or 20 (Major)
Aged (Morph Trait)	10
Bad Luck	30
Blacklisted	5 or 20
Black Mark	10 (Level 1), 20 (Level 2), or 30 (Level 3)
Combat Paralysis	20
Edited Memories	10
Enemy	10
Feeble	20
Frail (Morph Trait)	10 (Level 1) or 20 (Level 2)
Genetic Defect (Morph Trait)	10 or 20
Identity Crisis	10
Illiterate	10
Immortality Blues	10
Implant Rejection (Morph Trait)	5 (Level 1) or 15 (Level 2)
Incompetent	10
Lemon (Morph Trait)	10
Low Pain Tolerance (Ego or Morph Trait)	20
Mental Disorder	10
Mild Allergy (Morph Trait)	5
Modified Behavior	5 (Level 1), 10 (Level 2), or 20 (Level 3)
Morphing Disorder	10 (Level 1), 20 (Level 2), or 30 (Level 3)
Neural Damage	10
No Cortical Stack (Morph Trait)	10
Oblivious	10
On the Run	10
Psi Vulnerability (Ego or Morph Trait)	10
Real World Naiveté	10
Severe Allergy (Morph Trait)	10 (uncommon) or 20 (common)
Slow Learner	10
Social Stigma (Ego or Morph Trait)	10
Timid	10
Unattractive (Morph Trait)	10 (Level 1), 20 (Level 2), 30 (Level 3)
Uncanny Valley (Morph Trait)	10
Unfit (Morph Trait)	10 (Level 1), 20 (Level 2)
VR Vertigo	10
Weak Immune System (Morph Trait)	10 (Level 1) or 20 (Level 2)
Zero-G Nausea (Morph Trait)	10

COMBAT SUMMARY

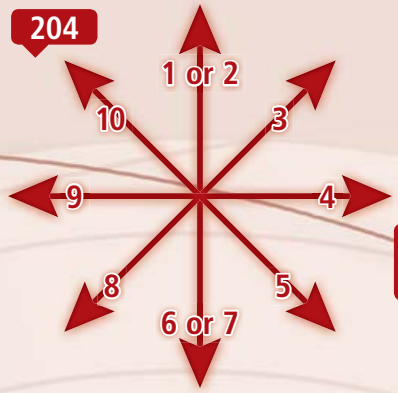
- Combat is handled as an Opposed Test.
- Attacker rolls attack skill +/– modifiers.
- Melee: Defender rolls Fray or melee skill +/– modifiers.
- Ranged: Defender rolls (Fray skill ÷ 2, round down) +/– modifiers.
- If attacker succeeds and rolls higher than the defender, the attack hits.
- Critical hits are armor-defeating (armor does not apply).
- Armor is reduced by the attack's Armor Penetration value (AP).
- The weapon's damage is reduced by the target's modified Armor rating (unless the attack is armor-defeating).
- If the damage exceeds the target's Wound Threshold, a wound is also scored. (If the damage exceeds the Wound Threshold by multiple factors, multiple wounds are inflicted.)

ACTION TURN

Step 1: Roll Initiative ((INT + REF) x 2) + 1d100
Step 2: Begin First Action Phase (Speed 1)
Step 3: Declare and Resolve Actions
Step 4: Rotate and Repeat (Speed 2-4)

SCATTER DIAGRAM

204



115 **MODIFIER SEVERITY**

SEVERITY	MODIFIER
Minor	+/– 10
Moderate	+/– 20
Major	+/– 30

115 **TEST DIFFICULTY**

DIFFICULTY LEVEL	MODIFIER
Effortless	+30
Simple	+20
Easy	+10
Average	+0
Difficult	–10
Challenging	–20
Hard	–30

123 **COMPLEMENTARY SKILL BONUS**

SKILL RATING	MODIFIER
01–30	+10
31–60	+20
61+	+30

203 **WEAPON RANGES**

WEAPON (TYPE)	SHORT RANGE	MEDIUM RANGE (–10)	LONG RANGE (–20)	EXTREME RANGE (–30)
Firearms				
Light Pistol	0–10	11–25	26–40	41–60
Medium Pistol	0–10	11–30	31–50	51–70
Heavy Pistol	0–10	11–35	36–60	61–80
SMG	0–30	31–80	81–125	126–230
Assault Rifle	0–150	151–250	251–500	501–900
Sniper Rifle	0–180	181–400	401–1,100	1,100–2,300
Machine Gun	0–100	101–400	401–1,000	1,001–2,000
Railguns				
as Firearms but increase the effective range in each category by +50%				
Beam Weapons				
Cybernetic Hand Laser	0–30	31–80	81–125	126–230
Laser Pulser	0–30	31–100	101–150	151–250
Microwave Agonizer	0–5	6–15	16–30	31–50
Particle Beam Bolter	0–30	31–100	101–150	151–300
Plasma Rifle	0–20	21–50	51–100	101–300
Stunner	0–10	11–25	26–40	41–60
Seekers				
Seeker Micromissile	5–70	71–180	181–600	601–2,000
Seeker Minimissile	5–150	151–300	301–1,000	1,001–3,000
Seeker Standard Missile	5–300	301–1,000	1001–3,000	3001–10,000
Spray Weapons				
Buzzer	0–5	6–15	16–30	31–50
Freezer	0–5	6–15	16–30	31–50
Shard Pistol	0–10	11–30	31–50	51–70
Shredder	0–10	11–40	41–70	71–100
Sprayer	0–5	6–15	16–30	31–50
Torch	0–5	6–15	16–30	31–50
Vortex Ring Gun	0–5	6–15	16–30	31–50
Thrown Weapons				
Blades	To SOM ÷ 5	To SOM ÷ 2	To SOM	To SOM x 2
Minigrenades	To SOM ÷ 2	To SOM	To SOM x 2	To SOM x 3
Standard Grenades	To SOM ÷ 5	To SOM ÷ 2	To SOM	To SOM x 3

193 **COMBAT MODIFIERS**

GENERAL	MODIFIER
Character using off-hand	–20
Character wounded/traumatized	–10 per wound/trauma
Character has superior position	+20
Touch-only attack	+20
Called shot	–10
Character wielding two-handed weapon with one hand	–20
Small target (child-sized)	–10
Very small target (mouse or insect)	–30
Large target (car sized)	+10
Very large target (side of a barn)	+30
Visibility impaired (minor: glare, light smoke, dim light)	–10
Visibility impaired (major: heavy smoke, dark)	–20
Blind attack	–30
MELEE COMBAT	**MODIFIER**
Character has reach advantage	+10
Character charging or receiving a charge	+20
RANGED COMBAT (ATTACKER)	**MODIFIER**
Attacker using smartlink or laser sight	+10
Attacker behind cover	–10
Attacker running	–20
Attacker in melee combat	–30
Attacker has reach advantage	+10
Defender has minor cover	–10
Defender has moderate cover	–20
Defender has major cover	–30
Defender prone and far (10+ meters)	–10
Defender hidden	–60
Aimed shot (quick)	+10
Aimed shot (complex)	+30
Sweeping fire with beam weapon	+10 on second shot
Multiple targets in same Action Phase	–20 per additional target
Indirect fire	–30
Point-blank range (2 meters or less)	+10
Short range	—
Medium range	–10
Long range	–20
Extreme range	–30

208 **HEALING**

CHARACTER SITUATION	DAMAGE HEALING RATE	WOUND HEALING RATE
Character without basic biomods	1d10 (5) per day	1 per week
Character with basic biomods	1d10 (5) per 12 hours	1 per 3 days
Character using nanobandage	1d10 (5) per 2 hours	1 per day
Character with medichines	1d10 (5) per 1 hour	1 per 12 hours
Poor conditions (bad food, not enough rest/heavy activity, poor shelter and/or sanitation)	double timeframe	double timeframe
Harsh conditions (insufficient food, no rest/strenuous activity, little or no shelter and/or sanitation)	triple timeframe	no wound healing

THE HACKING SEQUENCE

TASKS

1. Defeat the Firewall
2. Bypass Active Security
   a. Hacker Wins with Excellent Success, Defender Fails
   b. Hacker Succeeds, Defender Fails
   c. Both Succeed
   d. Defender Succeeds, Hacker Fails

RESULTS

Infosec Task Action (10 minutes)
Opposed Infosec Test
Hidden status/admin privileges/+30 all Subversion Tests (p. 256)
Covert Status (p. 256)
Spotted status/passive alert/-10 all Subversion Tests (p. 256)
Locked status/active alert/-20 all Subversion Tests (p. 256)

ONLINE SEARCHES

1. Common data = automatic acquisition
2. Uncommon data:
   a. Research Task Test (timeframe: 1 minute) modified by data obscurity to accumulate data
   b. Measure of Success determines depth of data found
3. Analyzing data:
   a. Research Task Test (timeframe: GM call) using complementary skill to understand data

247

MESH GEAR MODIFIERS

MODIFIER	SOFTWARE/HARDWARE
–30	Bashed-up devices, no-longer-supported software, relics from Earth or the early expansion into space
–20	Malfunctioning/inferior devices, buggy software, pre-Fall technology
–10	Outdated and low quality systems
0	Standard ectos, mesh inserts, and software
+10	High-quality goods, standard security-grade products
+20	Next-generation devices, advanced software
+30	Newly-developed, state-of-the-art, top-of-the-line technology
>+30	TITANs and/or alien technology

259

SUBVERSION DIFFICULTIES

Difficulty modifiers for common computer tasks

MODIFIER	TASK
–0	Execute commands, view restricted information, run restricted software, open/close connections to other systems, read/write/copy/delete files, access sensor feeds, access slaved devices
–10	Change system settings, alter logs/restricted files
–20	Interfere with system operations, alter sensor/AR input
–30	Shut system down, lockout user/muse, launch countermeasures at others

257

COUNTERMEASURES

Passive Alert (-10 modifier to intruders)

Locate Intruder: Opposed Infosec Test; if successful, intruder becomes Locked

Re-authenticate Users: Next Action Turn, intruder must make Infosec Test to log in again

Reduce Privileges: Limit user access privileges; see p. 246

Active Alert (-20 modifier to intruders)

Counterintrusion: If Trace (see below) is successful, launch intrusion attempt on intruder's home system

Lockout: Opposed Infosec Test; if successful, intruder dumped from system.

Reboot/Shutdown: Takes 1 Action Turn to 1 minute (GM discretion); all users ejected from system.

Trace: Trace intruder to home system with a Research Test (-30 if in privacy mode)

Wireless Termination: At end of Action Turn, all wireless connections terminated; wireless users ejected.

SUBVERSION EXAMPLES

In addition to the tasks noted under the Subversion Difficulties table, these modifiers present some additional example actions.

259

MOD	TASK
	Hacking Bots/Vehicles
–0	Give orders to drones
–10	Alter sensor system parameters, disable sensors or weapon systems
–20	Alter smartlink input, send false data to AI or teleoperator
–30	Lockout AI or teleoperator, seize control via puppet sock
	Hacking Ectos/Mesh Inserts
–0	Interact with entoptics, befriend everyone in range, make online purchases using user's credit, intercept communications, log activity
–10	Alter social network profile/status, adjust AR filters, tweak sensory interface, change AR skin, change avatar, access VPN
–20	Block or shuffle senses, inject AR illusions, spoof commands to drones/slaved devices
–30	Boot user out of AR
	Hacking Habitat Systems
–0	Open/close doors, stop/start elevators, operate intercom
–10	Adjust temperature/lighting, disable safety warnings, replace entoptic skin, lock doors, switch traffic timers
–20	Disable subsystems (plumbing, recycling, etc.), disable wireless links, dispatch repair crews
–30	Override safety cutoffs
	Hacking Security Systems
–0	Move/manipulate cameras/sensors, locate security systems/guards/bots
–10	Adjust patterns of sensor sweeps, view security logs, disable weapon systems
–20	Delete security logs, dispatch security teams
–30	Disable alerts
	Hacking Simulspace Systems
–0	View current status of simulspace, simulmorphs, and accessing egos
–10	Change domain rules, add cheats, alter parameters of story, alter simulmorphs, change time dilation
–20	Eject simulmorph, alter/erase character AIs
–30	Abort simulation
	Hacking Spimes
–0	Get status report, use device functions
–10	Adjust AI/voice personality settings, adjust timed operation schedule
–20	Disable sensors, disable device functions
	Hacking Simulspaces From Within
–0	Analyze simulation parameters, view domain rules, shape appearance of simulmorph, switch simulmorph character or morph type
–10	Change probability of test outcomes, become invisible ("out-game") to others
–20	Interfere with simulation (e.g. make it rain, generate earthquakes), generate items, ignore domain rules, kill or lockout other simulmorphs
–30	Go into god mode, command simulated characters, take over the sim

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Zardoz

A

Aarhus, 106
Ablative patches, 313
Abramsen, 107
Academics skill, 176-77
Access control, 291-92
Access jacks, 306
Access privileges, reducing, 257
Account access, 253
Accushot, 338
Acquire
  information, 289-90
  services, 289-90
  unload goods, 289
Action, 189-90
  complications, 193-206
  types, 119-20
Action turns, 119, 127
  declare, resolve actions, 188
  first phase, 188
  roll initiative, 188
  rotate and repeat, 188
Active alert, 257
Active monitoring, 253
Active psi, 221
Active skill, 172
Adaptability, 145
Addiction, 148, 212, 317-18
Admin accounts, 247
Adrenal boost, 301-2
Aerogel, 298
Aged, 148
AGI (artificial general intelligence), 81, 236
  attitudes toward, 48
  infolife and, 244
  infomorphs and, 264-65
  non-standard AI and, 245
AI (artificial intelligence), 236
  commanding, 264
  infolife and, 244
  limitations, 264
  non-standard, 245
  subversion, 364
Aimed shots, 193
Aiming, 190
Airburst, 199
Aircraft, 342-43
AIs, 331-32
Alienation, 225-26
  modifiers, 272
  test, 272
Aliens, 40
  mindset, 376
  psi sleights, 222
Allergy
  mild, 150
  severe, 151
Allies, 145
Alpha, 320
Alpha forks, 273
Amathea (Solano), 98
Ambassadors, 376-77
Ambelina, Claudia, 84
Ambidextrous, 145
Ambience sense, 223
Ammunition, 337
  reloading, 193
Analysis software, 205-6
Anarchism, 57, 77, 132
Animal
  empathy, 145
  handling skill, 177
  targets, 221-22
Anonymization, 252-53
Anonymous
  accounts, 330
  account services, 252-53
Anti-electronics sleight, 372
Anti-glare, 306
Anti-matter rocket (AM), 347
Anxiety, minor, 210
Aphrodite Prime, 90
Aptitude, 122-23, 127, 172
  customizing, 135
  improving, 152
  maximums, 124
  -only tests, 174-75
  range, 174
  starting, 135
AR (augmented reality), 236, 239-40
  games, 53-54
  illusions, 331
  intrusions, 49-50
Arachnoids, 143
Arcadia, 111
Area effect weapons, 193
Argonauts, 79, 132
Armor, 194, 310, 312
  bypassing, 197
  clothing, 312
  modification, 192, 313
  penetration, 194
  -piercing, 336
  repair, 209
  values, 312
  vest, 312
Arm slide, 341-42
Art skill, 177
Ashoka, 94
Asphyxiation, 194
Asteroid belt
  Ceres, 97
  Extropia (44 Nysa), 97
  habitats, 97
  Nova York (Metis), 97
  resources, economics, 97
Async, 126
  roleplaying, 221
Atavism, 212
Aten, 88
Atlas (Volkograad), 103
Atmospheric contamination, 200
Attack declaration, 191
Attention deficit hyperactivity disorder (ADHD), 212
Augmented reality illusions, 259-60
Authentication, 253
  circumvention, 254-55
  forging, 255
  spoofing, 255
Authophagy, 212
Automatic actions, 119, 190
Automatic rifles, 335
Automech, 345
Autonomist Alliance, 57, 76-79
Avatars, 239
Avoidance, minor, 210

B

Babylon, 111
Backdoor, 260
Background, 120, 131-32
Backup, 330, 359
  complications, 270-71
  cortical stack, 268
  insurance, 269-70, 330-31
Bad luck, 148
Bananas furiosas, 319-20
Barsoomian, 79-80, 132-33
Basilisk hacks, 364-66
Battle suit, 344
Beam weapons, 194, 203, 338-39
  skill, 177
Bedlam, 332
Behavioral control, 231
Behavioral masking, 231
Beta forks, 273-74
Big Circle Gang, 84
Bioconservatives, 80
Biological, 317
  functions, lack of, 143
  nanovirus, 363
Biometric
  lock, 291
  scan, 253
  tracking, 251
Biomods, basic, 300
Biomorph, 139-42, 369-70
  healing, 208
  resleeving, 271
Bioware, 301-306
  synthmorph and, 306
Bioweave armor, 302-03
Bipolar disorder, 212
Biter, 338
Blacklisted, 149
Black mark, 149
Black market morphs, 277
Blackout, major, 211
Blades, 334
  skill, 177
Blast weapons, 193
Bleeding, 208
Blind attacks, 194
Blueprints, 328
  open source, 284
  programming, 284-85
  restrictions, 284
Bluewood, 111
Body
  armor, 312
  bank, 331
  dysmorphia, 212
  sculpting, 309
Borderline personality disorder, 212
Bot, 195-96
  -pod rental, 331
  -vehicle AI, 331
Bouncers, 140
Bounty hunters, 60
Brainwave scans, 279
Brave, 145
Breadcrumb positioning system, 332
BringIt, 319
Brinkers, 80, 133
Brute-force hacking, 256
Brute strength, 175
BTX2, 323
Bubbleworlds, 281
Bug, 315, 336-37
Bug zappers, 291
Building skill, 179
Bulk carrier, 347
Burst fire (BF), 198
Buzz, 320
Buzzer, 340

C

Called shots, 196-97
Callisto, 99-100
Caloris 18, 88
Campaigns
  alternate, 23
  default, 22-23
  setting, 22
Cannon, 88
Capsule, 337
Carapace armor, 303
Cases, 143
Casimir force repulsion, 372
Cataplexy, 365
Catatonic stupor, 365
Catching thrown objects, 175
Cauterizer, 332
Ceres, 97
Chameleon
  cloak, 315
  coating, 313
  skin, 303
Character
  advancement, 152-53
  AGI, 265
  concept, 120-21
  credit, 125
  ego, 121
  gear, 125-26
  identity, 124
  implants, 126
  morph, 123
  motivations, 120-21
  other attributes of, 124
  psi, 126
  reputation, 125
  skills, 122
  social networks, 124-25
  stats, 121-23, 138
  traits, 123, 145-52
Character generation
  background, 131-32
  concept, 130-31
  customization points, 135-36
  detailing, 138
  faction, 132-34
  free points, 134-35
  gear purchasing, 136-37
  motivations, 137-38
Charge receiving, 197
Charging, 197
Charisma, 226
Chases, 195
Chat Noir, 108
Cheating, 263
Chemicals, 323
Chemical sniffer, 311, 293
Chemical substances, 317
Chills, moderate, 211
Christianity, 82-83
Circadian regulation, 304
Circle-A list, 125
Citizenship, 63
CivicNet, 125
Clanking masses, 66
Claws, 304
Cleaners, 329
Clean metabolism, 304
Climbing skill, 177
Cliques, 359
Cloud memory, 226
Clubs, 334
  skill, 178
Cluster colony, 281
Cognite, 70
Cognitive boost, 223
Cognitive drugs, 318, 320
Cole bubbles, 281
Collisions, 196
Combat
  complications, 193-206
  drugs, 319, 320
  modifiers, 193
  paralysis, 149
  resolving, 191-92
  spaceship, 284
  summary, 206
  tacnets, 205-6
Combine sensor systems, 303
Comex (Comet Express), 70-71
Comfurt, 320
Commnds, issuing, 248
Common information, 290
Common sense, 145
Communications, 313-14
  management, 205
Complementary skills, 173
Complex actions, 120, 190
Composure, 175
Computer capabilities, 247
Concentrated fire, 194
Concussion, 340
Cone weapons, 193
Confusion, moderate, 211
Conservatives, 359
Conspiracy theme, 19
Continuity
  stress, 273
  test, 272-73
Control skill, 178
Core skills, 172
Cortical stack, 300
  backups, 268
  destruction, 268
  feed, termination, 262
  retrieval, 268
Cosmetic mods, 309
Counterintrusion, 257
Countermeasures, active, 293
Courier, 347
Covert intruder, 256
Covert operations tool (COT), 315
Covert technologies, 315-17
Cowboys, 359
CR Gas, 324
Cranial computer, 300
Crashing, 196
Crash suit, 312
Credit, 125, 135
  buying more, 136
  making, 153
Creepers, 369
Creepy, 345
Crime, 23
Criminal, 133
Critical success/failure, 116, 189
  psi, 223
Crows, 358
Cryokinesis, 372
Cuffband, 316
Cultural experimentation, 44
Cultural regions, 44
Culture, 41
Customization points, 135-36
Customized morphs, 277
Customs, 282-83
Cyberbrain, 300
  evacuation, 271
  hacking, 261-62, 364
Cyberclaws, 307
Cyberlimb, 307
Cyberlimb plus, 308
Cycle, 344

D

Damage
  bonus, 138
  bonus stat, 122, 138
  determination, 192
  initiative, 189
  points, 207
  types, 207
  value, 207
Dang Fish Echo, 103
Danger sense, 145
Dangerous technologies, 63
Darkcasting, 243, 276
Darkly Selving, 322
Dazzler, 316
DDR, 323
Dead switch, 306
Death, 50-51, 207, 208
  rating (DR), 121, 138
  uploading after, 269
Deception skill, 178
Deep learning, 231
Deep scan, 226
Defaulting, 116, 127, 173
Defense
  declaration, 191
  full, 198
Degeneration, 324
Delayed actions, 189
Delphinium Six, 322
Delta forks, 273
Demolitions, 197
  skill, 178
Densiplast gloves, 334
Depression, 213
Derangements, 210-11
Dermal application, 317
Desktop cornucopia machine, 327
Destroyer, 347-48
Destructive uploading, 269
Detailed perception, 190
Detailing, character, 138
Detection, 293
Device AI, 331
Diamond, 298
Diamond axe, 334
Dice, 22, 114
Diffusion sleight, 372
Digital activity tracking, 251-52
Digital ID
  code, 280
  tampering, 280
Digital virus, 364
Dione (Thoroughgood), 103
Direct Action, 56, 57, 60, 71
Direction sense, 145, 301
Disabler, 316
Disarming, 197
Disassemblers, 329
Disassembly tools, 330
Discord Gate, 46
Disguise skill, 178
Disorders, 209-10, 211-14
Disorientation, 209, 365
Disposable launcher, 339
Distance
  lag, 248-49
  real and social, 43-44
Dizziness, minor, 210
DMSO, 323
Domain rules, 263
Downtime, 224
Dr. Bot, 345
Dragonfly, 144
Drifter, 131
Drive, 226, 318
Drug glands, 304
Drugs
  cognitive, 318, 320
  combat, 319, 320
  health, 319-20
  recreational, 320
  social, 320
  substance rules, 317-18
Dueling, 54
Durability (DUR), 121, 207
Dwarfs, 345

E

Earth, 24
  Fresh Kills, 92
  habitats, 92
  history and data, 51
  Paradise, 92
  population, 91-92
  Vo Nguyen, 92
Echo, 109-10
Echolalia, minor, 210
Echolocation, 301
Echopraxia, moderate, 211
Ecologene, 71
Economy,
  new, 62-66
  old, 61
  transitional, 62
EcoWave, 125
Ecto, 50, 237, 245, 253, 325
Edited memories, 149
Eelware, 304
Ego, 24-25, 121
  bridges, 328
  hunters, 60
  scan, 253
  sense, 226
  stats, 121
Egocasting, 275, 331
Eidetic memory, 146, 301
Electrical sense, 306
Electrogravities net, 332
Electromagnetic spectrum, 302
Electronic arrivals, 283
Electronic drugs, 317
Electronic locks, 291-92
Electronic rope, 332
Electronic sensors, 293
Elysium, 95
Emergency
  bubble, 332
  distress beacon, 333
  farcaster, 306-7
Emotional control, 224, 231
Emotional dampers, 304
Emotions, 181
EMP, 340
Empathic scan, 226
Enceladus (Profunda), 103
Encryption, 253-54
Encumbrance, 297
Enemy, 149
Energy armor/kinetic armor, 194
Energy damage, 207
Engineers, 329
Enhanced creativity, 224
Enhanced pheromones, 305
Entertainment, 51-54
Entrapment, 261
Environmental durability, 143
Epimethus, 103
Equipment rules, 296

gear, 296-98
Mesh gear, 298-99
personal augmentation, 300-326
Erasure squads, 358-59
Erato (Eratosthenes), 92
Eris, 109
Escape artist, 175
Espionage technologies, 315-17
E-tags, 239
Europa
biosciences, 99
habitats, 99
EVA sled, 345
Exalts, 139, 174
Excellent success, 118
Exceptional aptitude, 146
Exhumans, 80-81
Exoskeletons, 343-44
Exotech, 71
Exotic melee weapon skill, 178
Exotic ranged weapon skill, 178
Exotic weapons, 341
Exowalker, 344
Experia, 52, 71
Experimentation, political, 58
Expert, 146
Exploit, 331
Exploration, 23
Explosive
making, 197
placing, 197
Exsurgent
-infected PCs, 369
strains, 366-68
synthmorphs, 371
threat, 42, 240
virus strains, 362-63
Exsurgent psi, 371
-epsilon sleights, 371-72
-gamma sleights, 371
strain, 371
Extendable baton, 334
Extended magazine, 342
Extra limbs, 310
Extrasolar systems
Echo, 109-10
exoplanets, 111
Luca, 110
Mishipizheu, 111
Synergy, 111
Extraterrestrial intelligences (ETIs), 361, 352-53
Extreme heat/cold, 200
Extreme pressure, 200
Extropia (44 Nysa), 68, 78, 97, 133
Eye, The, 125

F

Fa Jing, 71-72
Fabber, 328
Facial/image recognition, 331
Faction, 120
Autonomist Alliance, 76-79
criminal, 83-84
Firewall, 84-85
hypercorps, 70-74
political blocs, 74-76
religious groups, 82-83
socio-political movements, 79-82
Factors, 40, 372-77
art, culture, 375
biodiversity, self-design, 374
colonies, 373-74
combat, 376
communication, 374
computers, 376
dust toxin, 376
exosociology, 374-75
metabolism, 374
motivations, 375
origin, evolution, 372
perception, 374
phenotypes, 376-77
psi sleights, 222
technology, 375
xenobiology, 373-74
Fake IDs, 280
Fall evacuee, 131
Falling, 197
Fame, 125
Fashion/design, 92
Fast learner, 146
Favor, 289
levels, modifiers, 287-88
paying, exchanging for, 288
service levels, 290
Fear, 42-43
Feeble, 149
Fiber eye, 316
Fiberoptic cable, 313
Field skills, 172, 173
Fighter, 348
Filter, 224
Finance, 92
Fire, 198
rate of, 198
Firearms, 335-36
Fireproofing, 313
Firewall, 84-85, 253, 331, 356-61
defeating, 255
Project Ozma and, 380
Firing modes, 198
First impression, 146
Fissure Gate, 46, 108
Fixation, minor, 211
Fixers, 329
Flashlight, 333
Flash suppressor, 342
Flats, 139, 174
Flayer, 338
Flex cutter, 334
Flexbots, 144
Flight drug, 324
Flight skill, 178
Floating worlds, 68
Flux, 337
Forgotten Hand, 322
Fork handling, 274
Forking, 273-74
14K Triad, 84
Fractal digits, 311
Fractals, 382
Frag, 340-41
Frail, 149
Fray skill, 178-79
Free fall skill, 179
Free points, 134-35
Freerunning skill, 179
Freezer, 340
Frenzy, major, 211
Frequency, 321
Fresh Kills, 92
Fugue, 213
Full automatic (FA), 198
Full defense, 198
attack, 191
psi, 222
Fullerenes/Fullerites, 298
Fur coat, 330
Furies, 140
Fusion rocket (F), 347
Futures, 140

G

Gallic moonlet, 104
Game effects, disorders, 212, 213, 214, 215
Gamemaster, 21
Gamemastering
backups, 385
fundamentals, 386
inspiration, 388-89
player challenges, 386-87
record-keeping, 385-86
reputation gain/loss, 384-85
resleeving, 271
responsibilities, 386
Rez point awards, 384, 386
secrets, 387-88
transhumanism, 389
Gamemaster rules
exhumans, 362
exsurgents, 369-71
exsurgent virus, 362-69
extraterrestrial intelligence, 352-53, 361
factors, 373-77
Firewall organization, 356-61
iktomi, 377
optional i-Rep, 357
Pandora Gates, 377-79
Project Ozma, 379-80
Prometheans, 381
secrets, 352-55
TITANs, 354-55
Game playing
action turns, 119-20, 127
alternate campaigns, 23
campaign setting, 22-23
character defining, 120
critical success/failure, 116
defaulting, 116
default setting, 22-23
group of players, meeting place, 20-21
imagination, 22
margin of success/failure, 118
modifiers, 115-16
note taking, 21-22
roles, 22
rules summary, 127
taking time, 117-18, 127
target numbers, 115
teamwork, 117
ten-sided dice, 22, 114
test difficulty, 115
test making, 115, 127
test types, 117-19
trying again, 117
ultimate rule, 114
Gamma forks, 274
Gamma-ray sensors, 303
Ganymede, 99-100
Gardeners, 329
Gas/smoke munitions, 341
Gatecrashing, 378-79
Gatekeeper Corporation, 72
Gateway (Pandora), 104
Gear, 126
acquiring, 296
concealing, 297
costs, 136-37, 296
design, fashion, 297-98
fabricating, 296
mass, encumbrance, 297
modifiers, 296-97
quality, 296
sizes, 297
Gender, 45, 114
General anxiety disorder (GAD), 213
General exploration vehicle (GEV), 348
Genetic defect, 149
Gerlach, 90
Ghostrider module, 307
Ghosts, 140
Gills, 305
Glitch, 108
Gnat, 345
Go-nin Group, 72
Gorgon Defense Systems, 72
Grand mal seizure, 365
Gravity, 198-99
and range, 203
transition zones, 200
well escape, 346
Gravy, 321
Greek asteroids
Lot 49, 101-2
resources, economies, 100
Grenades, 199-200
jumping on, 200
seekers and, 340-41
throwing back, 200
Grin, 319
Grip pads, 305
Grok, 224
Groundcraft, 344-45
Guanxi, 125
Guardian angel, 345
Guardians, 329, 377
Gunnery skill, 179
Gyromount, 342

H

Habitat, 24, 86
asteroid belt, 97
diversity, 45
Earth, 91
electronic arrivals, 283
Europa, 99
Ganymede, Callisto, 99-100
Jupiter, 98
largest, 68
Luna, 92-94
Mars, 93-96
Martian Trojans, 96
Mercury, 88
microgravity, 68-69
physical arrivals, 282-83
planetary settlement, 66-67
private, 69
Sol, 86, 88
space, 67-68, 280-81
Venus, 89-90
Vulcanoids, 88-89
Hacker, 243, 246
failing tests, 256
upgrading status, 256
zeroing in, 256
Hacking, 254-56
cyberbrain, 261-62
joint, 258
memory, 261
sequence, 255
simulspaces, 263-64
VPNs, 260
Hallucinations, 211, 365
Hamilton cylinders, 281
Hand laser, 308
Haptics, 245-46
Hard suit, 334
Hardened skeleton, 308
Hardening, 214-15
Hardware skill, 179
Haunting virus, 366-67
Haute nosh, 64
Headhunters, 383
Healing, 208-9
Healing vats, 326
Health drugs, 319-20
Hearing, enhanced, 301
Heartbeat sensors, 293
Heavy combat armor, 310
Helium-3 mining, 92
Hellball, 341
Helmet, 312
Hibernation, 305
Hibernoids, 140
Hidden compartment, 311
Hidden data, 251
Hidden intruder, 256
High-capacity qubit reservois, 315
High explosive, 341
High-explosive armor-piercing (HEAP), 341
High gravity, 199
Hinduism, 83
History, 32-36, 38
Hither, 321
Hives, 328
Hollow-point, 338
Holographic projectors, 325
Homing, 338
Hooverman-Geischecker, 88
Hopper, 310
Horror, 19, 389
Hostile environments, 200-201
Hovercraft, 310
Human Cognome Project, 229, 233
Hunger, minor, 211
Hunter-killers, 383
Hydrogen-oxygen rocket (HO), 347
Hyoden, 100
Hyper linguist, 146, 301
Hypercorps, 55-57, 70-74, 133
Hyperdense exoskeleton, 344
Hyperelite, 131
Hyperion, 104
Hyperthymesia, 224
Hypochondria, 213
Hysteria, major, 211

I

Iapetus, 104
ID (intelligent design) crew, 83
Ideas, 175
Identity, 124
circumventing checks, 280
crisis, 149
reputation and, 289
verification, 279-80
Iktomi, 377
Illiterate, 149
Ilmarinen, 108
Imaging scope, 342
Immersion, 262-63
Immigration, 282-83
Immortality blues, 149-50
Immune system, improved, 146
Immunogenic system, 313
Impact, 199
Impaired cognition, 365
Impersonation skill, 180
Implant, 126
memory, 226-27
nanotoxins, 308
rejection, 150
skill, 227
Improvised weapons, 202
Impulse control disorder, 213
Incompetent, 150
Indecisiveness, minor, 211
Indenture, 277
Indirect fire, 195, 205
Individual factors, 373
Industrial armor, 310
Inequality, 38-39
Infiltration skill, 180
Infolife, 131
Infomorph, 145
AGI and, 264-65
muses as, 265
refugees, 65-66
resleeving, 272
software minds, 265
subversion, 364
Information
acquire, 290
overload, 237-38
Infosec skill, 180
Infotech, 46-48
Infrared sensors, 302-3
Inhalation, 317
Inhibitor, 325
Initiative (INIT), 121, 138, 188
damage, 189
moxie, criticals, 189
order, 189
simplifying, 189
Injected application, 317
Injectors, 329
Inner System
Firewall, 361
politics, 55-57, 75
Innocuous, 146
Insanity rating (IR), 122, 138, 209
Insomnia, 213
Instinct, 224
Integration
modifiers, 27
test, 271
Intentions, 181
Interest skill, 180
Interface, gear, 298
Interfacing skill, 180
Interrogation, 232
Intimidation skill, 180
Intruder
changing status, 256
locating, 256, 257
status, 256
Intrusion, 254-56
countermeasures, 257-58
preconditions, 254
tests, 255
traces, eliminating, 260
Intrusion, 254-56
Inuit moonlet, 104
Investigation skill, 180-81
Invisibility cloak, 316
Io, 99
Ionic, 310
Irrationality, major, 211
Irreproducible goods, 64
Islam, 83
Isolates, 40, 131
iZulu, 104

J

Jammers, 338
Jamming, 196, 262
Janus Commons, 103
Jellies, 370
Jewelry, nostalgia, 41
Jovian Republic, 57, 58, 75, 134
Firewall, 361
punishment, 60
Jovian Trojans, 96
Judaism, 82-83
Juice, 320
Jumping, 191
Jupiter
Amathea (Solano), 98
habitats, moonlets, 98
Io, 99
resources, economy, 97
Jupiter brain, 92

K

Kaos AI, 331
Keypad lock, 291
Kick, 318-19
Kinesics skill, 181
superior, 225
Kinetic
ammunition, 336-38
damage, 207
friction, 372
weapons, 181, 334-35
Klar, 318
Knife, 334
Knockback, 202
Knockdown, 202, 207-8
Knowledge skill, 172, 185

L

Language skill, 181
Large lander and orbit transfer vehicle (LLOTV), 348
Laser
-guided, 338
-microwave link, 314
pulsers, 338
sight, 342
Law enforcement, 58, 59-60
Layered armor, 194
Learned skills, 123, 127, 136
new, 153
ranges, 174
Lemon, 150
Less complex life forms, 221-22
Libertarians, 57-58
Liberty, 100
Lidar (visible light) sensors, 303, 311
Life, 50-51
in space, 280-84
Light combat armor, 310
Limber, 146
Linkstate, 323
Liquid thermite, 323
Living space, 64
Local conditions, 239
Lockbots, 292
Locked intruder, 256
Lockout, 257
Locus, 101
Logorrhea, minor, 211
Loonie, 134
Lost generation, 131, 233
Lot 49, 102
Lotus coating, 313
Low-capacity qubit reservoir, 315
Low gravity, 199
Luca, 110

Lucidity (LUC), 122, 138, 209
Luna, 24, 91
  Erato (Eratosthenes), 92
  fashion/design, 92
  finance, 92
  Helium-3 mining, 92
  Nectar (Nectaris), 92
  New Mumbai containment zone, 92
  Shackle (Shackleton-New Varanasi), 93
Lunar colonist, 131
Lunar-Lagrange Alliance, 75

M

Ma'adim Vallis, 93-94
Machine gun, 336
Magnetic fields, 200-201
Magnetic system, 310-11
Mahogany, 109
Major favor, 290
Maker, 327-28
Malware, 244
Maps, 205
Margin of Failure (MoF), 118, 119
Margin of Success (MoS), 118, 119
Markov, 109
Mars, 24
  Ashoka, 94
  buggy, 344-45
  Elysium, 94-95
  Noctis-Qianjiao, 95
  Olympus, 95-96
  Progress (Deimos), 96
  regions, 93-94
  Valles-New Shanghai, 96
Martian, 132
Martian Gate, 46
Martian Rangers, 95
Martian Trojans, 96
Matchmaking, morph, 277
Math
  boost, 301
  wiz, 146
Matter transformation, 372
Meathab, 104
Media, 51-52
Medical care, 208
Medical sensors, 300
Medichines, 308
Medicine skill, 182
Medusan Shield, 56, 57, 60
Megalomania, 213
Melder virus, 384
Melding, 376
Melee
  attack/combat, 191, 202
  weapons, 206, 334, 335
Memorizing, 175
Memory
  editing, 232
  hacking, 261
Mental alterations, attitudes toward, 48
Mental armor, 223
Mental augmentation, 301, 306-7
Mental disorder, 150
Mental healing, 215
Mental health, 209-15
Mental speed, 308
Mental stress, 230-31
Mentons, 139
Mercenaries, 23, 57
Mercurials, 81, 134
Mercury habitats, 88
Merging, 275-76
Mesh, 24
  abuses, 243-44
  access, 50
  accounts, access privileges, 246-47
  capabilities, 236
  gear modifiers, 247
  gear quality, 247
  gear rules, 299
  false ID, 252
  ID, 246
  ID authentication, 253
  ID tracking, 251-52
  information overload, 237-38
  inserts, basic, 46, 300
  interface, 239-41, 245-46
  islands, 242-43
  local, 239
  security, 253-54
  technologies, 237
  traffic filters, mist, 248
  uses, 241-42
Metacelebrities, 52
Metallic foam, 298
Metallic glass, 298
Metallic hydrogen rocket (MH), 347
Metamaterials, 298
Metastasizer, 384
Microbug, 316
Microgravity, 199
  habitats, 68-69
  shoes, 325
Microlight, 310, 343
Micromissile, 339
Microswarms, 328-29
Microwave agonizer, 339
Mimas (Harmonious Anarchy), 104
Mimic, 227
Mindlink, 227
Mindstealer virus, 367
Miniature radio farcaster, 315
Minor favor, 290
Mishipizheu, 111
Mist, 248
Mnemonic augmentation, 307
Mobile lab, 330
Mobile offices, 242
Mobility systems, 310
Moderate favor, 290
Modified behavior, 150
Modifiers, 115-16, 127, 192
  combat, 193
  gear, 296
  integration, alienation, 272
  mesh gear, 247
  networking, 287
  psychosurgery, 231
Modifying hardware, 179
Modular design, 311
Monitoring, 251-52
Monofilament sword, 334
Mono No Aware, 319
Monowire garrote, 334
Mood swings, moderate, 211
Moonlets, 98
Morningstar Constellation, 75-76
Morph, 24, 50-51, 86, 121
  acclimatization, 220
  acquisition, 277
  availability, 276
  bios, 139-42
  brokerage, 276-79, 331
  character, 123
  costs, 277
  fever, 220
  patron provisioning, 277
  pods, 142-43
  psi and, 220
  rental, 278
  rental insurance, 278
  starting, 136
  stats, 121
  switching, 152
  synthetic, 143-45
  trade-in, 277
Morphing disorder, 150
Motivation, 121, 138,139, 152
Movement, 190-91
  rates, 191
Moxie, 122, 189
  improved, 153
  increasing, 135
  NPCs and, 386
  starting, 135
MRDR, 319
Multiple devices access, 249
Multiple personalities, 301
Multiple personality disorder, 214
Multiple targets, 221
Multitasking, 224, 307
Muscle augmentation, 305
Muses, 47-48, 51-52, 264
  Infolife and, 244, 245
  roleplaying, 265
Mute, moderate, 211
Myst trees, 111

N

Nanobandage, 333
Nanodetectors, 326-27
Nanodrugs, 317, 321-22
Nano-ecologists, 81-82
Nanofabrication, 183
  blueprints, 284-85
  programming test, 285
  raw materials, 284
  time, 285
Nanofabricators, 327-28
Nanophages, 309
Nanoplague, 364
Nanoscopic vision, 311
Nanoswarms, 328-29, 383
Nanotagging, 292
Nanotat, 310
  ID alterations, 280
  scans, 279-80
Nanotech Hamilton cylinders, 67
Nanotechnology
  advanced, 328-29
  basic, 326-28
Nanotoxins, 324, 325
Nanoviruses, 384
Nanoware, 308-9
Narcissism, moderate, 211
Narcoalgorithms, 322-23
Narrative modifiers, 116
Native tongue, 135
Natural healing, 208, 215
Natural immunity, 146
Nausea, 211, 365
Navigation skill, 182
Necrosis, 324
Necrotizer, 384
Nectar (Nectaris), 92
Neem, 318
Negative refraction, 372
Neo-avians, 109, 141
Neo-Buddhism, 83
Neo-hominids, 141
Neo-primitivists, 80
Neotenics, 141
Neptune
  Glitch, 108
  Ilmarinen, 108
  Mahogany, 108-9
  minor moons, 109
  Triton, 109
  Trojans, 109
Nervex, 323-24
Networking, 286-87
  modifiers, 287
  plus, 357
  reputation and, 287
  skill, 182
  test, 287
Neurachem, 305
Neural
  damage, 150
  pruning, 273, 274-75
Neurodes, 362
Neuropath, 324
  virus, 384
Neutrino
  communications, 314
  transceiver, 314
New Mumbai containment zone, 93
New Quebec, 106
Nguygen's Compact, 103
Night Cartel, 83
Nightmare, 332
Nimbus, 72
Nine Lives, 83
No cortical stack, 151
Noctis-Qianjiao, 95
Nonvocal communication, 181
Norse moonlet, 104
Nostalgia, 41-42, 68
Note taking, 21-22
Nott, 111
NotWater, 323
Nova York (Metis), 97
Novacrabs, 142
Novelty, 64
Nutcracker, 324
Nyhavn, 107

O

Oberon, 108 Objects, 202-3
Oblivious, 151
Obsessive compulsive disorder (OCD), 214
Octavia, 90
Octomorphs, 141
Offensive armor, 313
Olympians, 140
Olympus, 95-96
Olympus Mons, 94
Omni awareness, 227
Omnicor, 72
O'Neill cylinders, 281-82
On the run, 151
Opposed tests, 119, 127, 192
  psi, 222
Oracles, 309
Oral consumption, 317
Orbital Hash, 319
Out'sters, 80
Outcome determination, 192
Overload grenade, 341
Oxygen reserve, 308
Oxytocin-A, 324

P

Pain
  filter, 143
  threshold, high, 224
  tolerance, 146, 150
Palming skill, 182
Pan (iZulu), 104
Pandora Gates, 24, 46, 377-79
Panic, moderate, 211
Paradise, 92
Paralysis, major, 211
Paranoia, 42-43
Particle beam bolter, 338-39
Partnership, 290
Passcode, 253
Passive alert, 257
Passive psi, 221
Passkey, 253
Pathfinder, 73
Pathogens, 324
Patron provisioning, morphs, 277
Patron, 146
Pattern recognition, 224-25
Pax Familae, 84
Peacekeeping, 58-59
Penal lease, 278
Penetration, 228
Perception, 190
  skill, 182
Peripherals, 247
Personal area networks, 241
Personal augmentation
  bioware, 301-306
  cyberware, 306-8
  standard, 300
Personal computers, 247
Personal information, 239
Personal vehicles, 345
Personality editing, 232
Persuasion skill, 183
Petals, 322
Petrifier, 384
Pets, 330
Phelan's Recourse, 105
Pheromones, enhanced, 304
Phlo, 319
Phoebe, 107
Physical arrivals, 282-83
Physical augmentations, 302-6, 307-8
Physical entertainment, 54
Physical health, 206-8
Physical modifications, 310-11
Physical tracking, 251
Piercings, 310
Pilot skill, 183
Pirates, 84
Pistols, 335
Planetary Consortium, 55, 76, 85
  hypercorps and, 55-56
  labor pool, 65-66
  punishment, 60
Planetary settlement, 66-67
Plasmaburst, 341
Plasma rifle, 339
Plasma rocket (P), 347
Plasmaburst, 341
Plastic ammo, 338
Pleasure pods, 142
Pneumatic limbs, 311
Pods, 142-43, 271
Poison gland, 305
Political blocs, 74-76
Political experimentation, 58
Politics
  inner system, 55-57
  outer system, 57-58
Portable plane, 343
Portable quantum entangled communic., 315
Portable sensor, 325
Portal denial system, 292
Post-apocalyptic theme, 19
Positioning, 205
Post traumatic stress disorder (PTSD), 214
Power, 299
Pragmatists, 359
Predators, 362
Predictive boost, 225
Prehensile feet, 305
Prehensile tail, 305
Preservationists, 82
Priority call, 357
Prisoner mask, 316
Privacy, 49-50, 58-59, 238
Privacy mode, 252
Private habitats, 69
Private information, 290
Profession skill, 183
Programming
  skill, 183
  test, 285
Progress (Deimos), 96
Project Ozma, 85, 96, 379-80
Prometheans, 85, 378, 381
Prometheus (Marseilles), 105
Prosperity Group, 73
Proteans, 329
Protocol skill, 183
Proxies, 85, 357-59
Proximity, 338
Psi, 126, 147, 218-19, 220-29
  Assault skill, 184
  attack, 191
  chameleon, 147
  damage, 207
  defense, 147
  drawbacks, 220-21
  drugs, 325
  exsurgent, 371
  exsurgent synthmorphs, 371
  improving, 153
  range, 221
  shield, 228
  skills, 172-73
  sleights, 136, 223-29
  strain, 223
  trait, 126, 147
  vulnerability, 151
Psi-Chi sleights, 223-25
Psi game mechanics, prerequisites, 220
  criticals, 23
  full defense, 222
  mental armor, 223
  morphs, 220
  opposed tests, 222
  roleplaying asyncs, 221
  skills, sleights, 221
  sleight duration, 223
  target awareness, 222
  targeting, 221-22
  using, 221
Psi-gamma sleights, 226-29
Psike-out, 325
Psi-opener, 324-25
Psychic stab, 228
Psychosomatic crippling, major, 211
Psychosurgery, 331
  mechanics, 230
  modifiers, 231
  neural pruning and, 274-75
  procedures, 231-32
  process, 229-30
  roleplaying mind edits, 231
  skill, 184
Psychotherapy, 232
  care, 215
Psychotorture, 232
Public accounts, 246
Public information, 290
Public key crypto, 253
Public resleeving, 278
Punishment, 60-61
Puppet sock, 307
Puppeteering, 261
Pyrokinesis, 372

Q

Qing Long (Azure Dragon), 96
Qualia, 225
Quantum
  codebreaking, 254
  computer, 316
  cryptography, 254
  entangled (QE) communication, 315
  farcasters, 314
  key, 253
Quick actions, 119, 190

R

Radar (radio/microwave), 302, 311
  jamming, 262
Radiation, 201
  sense, 306
Radio
  booster, 314
  jamming, 262
  ranges, 299
  transceiver, 300
Railguns, 336
Range, 203
Ranged attack, 191
Ranged combat, 202-3
Ranged weapons, extra, 206
Rapid healer, 147
Reach, 204
Reactive ammo, 338
Reactive armor-piercing (RAP) ammo, 338
Reactive coating, 313
Real world niavete, 151
Real-time search, 250
Reaper, 144
Re-authentication, 257
Reboot, 257
Reclaimers, 82
Recreational drugs, 320
Reflex boosters, 308
Refractive glazing, 313
Refractory metals, 298
Regeneration, 376
Re-instantiated, 132
Relationships, 45
Relics, Earth, 64
Religious groups, 82-83
Reloading, 193
Remade, 141
Remembering, 175
Remote sniffing, Mesh ID, 252
Rental insurance, 279
Repair, 179, 208-9
Repair spray, 333
Reputation, 125, 135, 285, 287-91
  burning, 288
  gain/loss, 384-85
  identity and, 289
  improving, 153
  increasing, 136
  levels, 287
  limits, 288

networks, 287
Research
online, 249-51
skill, 184, 249-51
Resistance, 190
Resleeving, 270-72
alienation, 272
biomorphs, pods, 271
continuity, 269
continuity test, 272-73
costs, 271
gamemaster and, 271
infomorph, 272
integration, 271
integration test, 271
public morph, 278
synthmorphs, 271
Resolve, 175
Respiration, enhanced, 305
Respirocytes, 308-9
Retracting/telescoping limbs, 311
Retrieval operations, 23
Rez points, 152, 384
Rhea (Kronos Cluster), 105
Right at home, 147
Riot shield, 312
RNA (Research Network Affiliation), 125
Robotic enhancements, 310-11
Robots, 342, 345-46
Rocket buggy, 343
Rocket pack, 345
Roleplaying game (RPG), 18-19
Roleplaying
exsurgents, 368-69
factors, 376
mind edits, 231
muses, 265
Roller, 310
Rotorcraft, 310
Routers, 359
Rusters, 141

S

Saboteurs, 329
Safety system, 342
Salamander, 86
Salvage and rescue, 23
Sample characters, 154-69
Saturn
Atlas (Volkograad), 103
Dione (Thoroughgood), 103
Enceladus (Profunda), 103
Epimethus, Janus, 103
Gateway (Pandora), 104
Hyperion, 104
Iapetus, 104
Meathab, 104
Mimas (Harmonious Anarchy), 104
moonlets, 102-3
Norse, Inuit, Gallic moonlets, 104
Pan (iZulu), 104
Phelan's Recourse, 104-5
Prometheus (Marseilles), 105
resources, economics, 102
Rhea (Kronos Cluster), 105
rings, 102
satellites, 102
Tethys (Godwinhead), 105
Saucer, 345
Savant calculation, 225
Scanners, 359
Scanning, 251
Scarcity, 63-64
Scarification, 310
Scatter, 204
Scavenger tech, 330
Scent alteration, 310
Schizo, 321
Schizophrenia, 214
Scorchers, 332
Scorching, 261-62
Scouts, 329
Scramble, 228
Scrapper's Gel, 323
Scripting, 260-61
Scrounging skill, 184
Scum, 78-79, 134
Scumborn, 132
Scum barge, 67-68, 348-49
Searches, 249-251
Second skin, 147, 312
Secret information, 290
Security
accounts, 247
AI, 331-32
alerts, 257
access control, 291-92
active countermeasures, 293
bypassing active, 255-56
detection, surveillance, 293
egocaster, 276
Seed AI, 245, 353-54
Seeker, 199-200, 339-40
armband, 339
grenade and, 340-41
pistol, 339
weapons skill, 184
Seismic sensors, 293
Self-healing, 292, 313
Selfhood, 275
Semi-automatic (SA), 198
Sense
block, 228
enhancement, 301-2, 306
skill, 184
Sensor, 293, 311
ranges, 299
Sensory
boost, 225
databases, 302
input, 205
reprogramming, 365
Sentinels, 85, 356-57, 360
Servers, 247, 357
Services, 330-31
Servitor, 346
SETI
(Search for Extra-Terrestrial Intelligence), 379
Severe failure, 118
Sexuality, 45, 305
Shackle (Shackleton-New Varanasi), 93
Shape adjusting, 311
Shard pistol, 340
Shell
jamming, 196
movement, 195
remote control, 196
skills, 195
stats, 195
Shelter dome, 333
Shifters, 370
Shock
attacks, 204
baton, 334
gloves, 334
safety, 342
weapon immunity, 143
Shooting through, 203
Shredder, 340
Shui Fong, 84
Shutdown, 257, 262
Shutter, 332
Signal, 199-200
Silence, 289
Silencer/sound suppressor, 342
Simulmorphs, 262
Simulspace, 262-64
access, 241
environments, 240-41
hacking, 263-64
rules, 263
subscription, 331
Single-shot (SS), 198
Singularity seekers, 43
Situational awareness, 148
Skathi, 107
Skill
categories, 172
corem 172
imprints, 232
improving, 152-53
learned, 172-73
list, 176-84
necessary, 176
ranges, 174
suppression, 232
untrained use, 116
using, 173-74
Skilled sentient labor, 64
Skillsofts, 332
Skillware, 309
Skinaethesia, 73
Skindyes, 310
Skinflex, 309
Skinlink, 309
Skinning, 240
Skin pocket, 305
Skinthetic, 73
Sky Ark, 111
Slaving devices, 248
Sleep, 365
Slip, 323
Slippery walls, 292
Slitheroids, 144
Slow learner, 151
Small jet, 343
Small lander and orbit transfer vehicle (SLOTV), 349
Smart
ammo, 338
clothing, 325
dogs, 330
dust, 316
magazine, 342
materials, 298
monkey, 330
rats, 330
skin, 312
vac clothing, 325
Smartlink, 342
-weapon data, 205
Smell, enhanced, 301
Snake, 310
Snappers, 370
Sniffer, 293, 331
Sniffing, 252
Sniper rifle, 335
Social drugs, 320
Social engineers, 359
Social gaff negation, 183
Social networks, 124-25, 239, 242, 285-87, 289
Social stigma, 151
Socialites, 82, 134
Society, 41
Socio-political intrigue, 23, 79-82
Software, 248, 331
Software, crashing, 260
Sol (sun), 86
habitats, 86, 88
Solar system, 38
Solaris, 73
Somatek, 73-74
Soundwaves, 303
Sousveillance, 238
Space
colonist, original, 132
habitats, 67, 280-81
roach, 330
travel, 283-84, 331
Spacecraft, 346-49
propulsion, 347
Spaceship combat, 284
Spam, 228
Spasm, 332
Special skills, 185
Specializations, 123, 127, 136, 153, 173
Specialized hive, 328
Specimen container, 330
Speck, 346
Specs, 326
Speed (SPD), 121, 138, 189
Spimes, 238
Spindle, 333
Spindle climber, 333
Splash, 337, 341
Splicers, 139, 174
Spoof, 331
Sports, 54
Spotted intruder, 256
Spray armor, 313
Spray weapons, 184, 340
Sprayer, 340
Sprinting, 191
Starware, 74
Static, 228
Stealthed signals, 252
Stellar Intelligence, 74
Sticky grenades, 341
Stress
points, 209
value, 209
Stressful situations/experiences, 214, 215
Striking looks, 148
Structural enhancement, 311
Structuralists, 359
Structures, 202-3
Stunner, 339
Subcultures, 39-41
Subdermal implants, 309
Subdued opponent, 204
Subliminal, 228
Submachine guns, 335
Submarine, 310
Substance abuse, 317-18
Subversion, 259-61
difficulties, 259
examples, 259
Success tests, 117-19, 127
Sun Yee On, 84
Superthermite charges, 330
Suppressive fire, 204
Surgery, 208
Surprise, 204-5
Surveillance, 238, 293
bugs and, 315
Survival gear. 332-33
Suryas, 86
Swarm, 328-29
composition, 311
Swarmanoid, 144
Sweeping fire, 194
Swimming skill, 184
Sybils, 81
Sylphs, 139-40
Synergy, 111
Synthetic mask, 311
Synthmorph, 66, 143-45, 195-96, 369-70
bioware and, 306
object repair, 209
physical repair, 209
resleeving, 271

T

Tactical networks, 205, 331
Taggants, 329
Target
multiple, 202
numbers, 115
specific, 197
Task Action Programming Test, 246
Task actions, 120, 127, 190
Tasping, 232
Teamwork, 117, 127
Techno-Creationists, 83
Technology, 45
Temperature tolerance, 305
Terahertz sensors, 302
Terminology, 25-27
Terragenesis, 74
Test making, 115
Tethys (Godwinhead), 105
Tharsis League, 76
Thermal dampening, 313
Thermobaric, 341
Thought browse, 228-29
Throwing weapons skill, 184
Thrown damage bonus, 202
Thruster pack, 345
Thrust Victor, 310
TILION, 92
Time sense, 225
Timeline, 37
Timid, 151
Tin cans, 282
Titan, 24, 106
Aarhus, 106
New Quebec, 106
Nyhavn, 106-7
Phoebe, Skathi, Abramsen, 107
Titanian Commonwealth, 79, 108, 134
Firewall, 361
TITANs (Total Information Tactical Awareness Networks), 32, 34-6, 40, 42, 48, 85, 236, 244-45, 324, 354-55, 362-63, 387-89
-controlled army, 66
infected ruins, 270
legacy, 237, 381-84
mutated person, 47
quarantine zone, 94
relics, 56
Token lock, 291
Tools, 325
Top secret intel, 290
Torch, 340
Toruses, 282
Touch-only attack, 206
Tough, 148
Toughness, 143
Toxic atmosphere, 201
Toxin, 323-24, 325
filters, 305
Trace, 258
Tracked, 310
Tracker Dye, 323
Tracking, 251-52, 331
Traction pads, 317
Trade, 23
Traffic filters, 248
Training animals, 177
Traits, 123
gaining/losing, 153
purchasing, 136
Transhumanism, 18, 38, 389
informorphs, 245
labor, 64
life, death and morphs, 50-51
Transparent alumina, 298
Transport, standard, 349
Transporter, 344
Trauma, 209
effects, 209-10
threshold (TT), 122, 138
Travel, 48-49, 63
basics, 283-84
distance, 283
local, 283
T-ray emitter, 306
Tremors, moderate, 211
Triads, 84
Trigger, 324
Trike, 344
Triton, 109
Trivial favor, 290
Trojans
Locus, 100-101
resources, economies, 100
Twelve Commons, 103
Twitch nerve gas, 324
Two-handed weapons, 206

U

Ukko Julinä, 88
Ultimates, 82, 134
Ultraviolet sensors, 303
Unarmed
combat skill, 185
weapons, 334
Unattractive, 151
Unbreathable atmosphere, 201
Uncanny valley, 151-52
Unconscious lead, 225
Unconsciousness, 208
Underbarrel seeker, 339-40
Underwater, 201
Unfit, 152
Uniform blast, 193
Uplifts, 81, 132
Uploading, 268-69
Uranus, 107
Chat Noir, Fissure Gate, 108
Titania, Oberon, 108
Xiphos, 108
User accounts, 247
Utilitool, 326
Utopians, 57-58
Uzumaki, 384

V

V/2011-Caldwell, 88-89
Vacuum, 201
and range, 203
sealing, 306
suits, 333-34
Valles Marineris, 94
Valles-New Shanghai, 96
Value, 63-64
Variable opposed test, 119
Vectors, 359
Vehicle passenger attacks, 196
Vehicles, 195-96, 342-49
Venus, 24, 89-90
Venusian, 134
Vertigo, 365
Vibroblade, 334
Vidgames, 52-53
Vids, 52-53
Viewers, 326
Vision, enhanced, 301
Vo Nguyen, 92
Vortex ring gun, 341
Voting, 56
VPN (virtual private network), 241-42
hacking, 260
VR (virtual reality), 236, 240-41
vertigo, 152
worlds, 54
Vulcanoids habitats, 88-89
Vulvanoid Gate, 46

W

Walker, 310
Warbots, 383
Wasp knife, 334
Watts-Macleod virus, 218, 219, 220, 368
Weak immune system, 152
Weapon, 334-42
accessories, 341-42
improvised, 202
mount, 311
ranges, 203
scanners, 293
wielding two or more, 206
Wheeled, 310
Whippers, 370
White noise machine, 317
Willpower stress tests, 214
Winged, 310
Wireless code lock, 291
Wireless inhibitors, 292
Wireless scanning, 251, 293
Wireless termination, 258
Worker pods, 142
Wormhole, 378
Wormwood, 111
Wound, 207-8
Determination, 192
effects, 207-8
threshold (WT), 121
Wounds, 207-8
Wrappers, 370
Wrist-mounted tools, 309

X

Xenodeism, 83
Xenomorph virus, 368
Xiphos, 108
XP (experience playback), 53, 236, 241-42, 331
X-ray emitter, 317
X-ray sensors, 303

Y-Z

YGBM (you gotta believe me) attacks, 365-66
Zap, 337
Zbrny Group, 74
Zero ammo, 338
Zero-g nausea, 152
Zoosemiotics, 148

PLAYER

ECLIPSE PHASE CHARACTER SHEET

CHARACTER

BACKGROUND

Faction

Morph

Gender Identity

Actual Age

Current Moxie Points

Rez Points

Motivations

APTITUDES

	COG	COO	INT	REF	SAV	SOM	WIL
Base							
Morph Bonus							
Total							

STATS

WIL x 2 | FROM MORPH | (INT + REF) x 2

MOX	TT	LUC	IR	WT	DUR	DR	INIT	SPD	DB

LUC ÷ 5 | LUC X 2 | DUR ÷ 5 | Biomorphs: DUR x 1.5 Synthmorphs: DUR x 2 | DUR ÷ 10

DAMAGE & STRESS

DAMAGE	WOUNDS	STRESS	TRAUMA

PRIMARY EOUIPMENT

Armor — ENERGY | KINETIC

Melee Weapon — WEAPON | SKILL | AP | DV | NOTES

Ranged Weapon — WEAPON | SKILL | AP | DV | MODES | AMMO | RANGE | NOTES

ACTIVE SKILLS	LINKED APTITUDE	BASE	MORPH BONUS	TOTAL	SPECIALIZATION / OTHER BONUS
Animal Handling	SAV				
Beam Weapons	COO				
Blades	SOM				
Climbing	SOM				
Clubs	SOM				
Control	WIL*				
Deception	SAV				
Demolitions	COG*				
Disguise	INT				
Exotic Melee:	SOM				
Exotic Melee:	SOM				
Exotic Ranged:	COO				
Exotic Ranged:	COO				
Flight	SOM				
Fray	REF				
Free Fall	REF				
Freerunning	SOM				
Gunnery	INT				
Hardware:	COG				
Hardware:	COG				
Impersonation	SAV				
Infiltration	COO				
Infosec	COG*				
Interfacing	COG				
Intimidation	SAV				
Investigation	INT				
Kinesics	SAV				
Kinetic Weapons	COO				
Medicine	COG				
Medicine	COG				
Navigation	INT				
Networking:	SAV				
Networking:	SAV				
Networking:	SAV				
Networking:	SAV				
Palming	COO				
Perception	INT				
Persuasion	SAV				

ACTIVE SKILLS	LINKED APTITUDE	BASE	MORPH BONUS	TOTAL	SPECIALIZATION / OTHER BONUS
Pilot	REF				
Pilot	REF				
Programming	COG*				
Protocol	SAV				
Psi Assault	WIL*				
Psychosurgery	INT				
Research	COG				
Scrounging	INT				
Seeker Weapons	COO				
Sense	INT*				
Spray Weapons	COO				
Swimming	SOM				
Throwing Weapons	COO				
Unarmed Combat	SOM				

* = no defaulting

KNOWLEDGE SKILLS	LINKED APTITUDE	BASE	MORPH BONUS	TOTAL	SPECIALIZATION / OTHER BONUS
Academics:	COG				
Academics:	COG				
Academics:	COG				
Academics:	COG				
Art:	INT				
Art:	INT				
Art:	INT				
Art:	INT				
Interest:	COG				
Interest:	COG				
Interest:	COG				
Interest:	COG				
Language:	INT				
Language:	INT				
Language:	INT				
Language:	INT				
Profession:	COG				
Profession:	COG				
Profession:	COG				
Profession:	COG				

PLAYER

CHARACTER

ECLIPSE PHASE CHARACTER SHEET

@-Rep | G-Rep

C-Rep | I-Rep

E-Rep | R-Rep

F-Rep

MUSE STATS

	COG	COO	INT	REF	SAV	SOM	WIL
Aptitudes							

Skills & Notes

WIL x 2

TT	LUC	IR

LUC ÷ 5 | LUC X 2

Positive & Negative Traits

Psi Sleights

ID Notes

Backup Notes

Gear

CHARACTER

Morph Type

Sex/Visible Gender

Visible Age

Description

ECLIPSE PHASE MORPH SHEET

APTITUDE BONUSES

	COG	COO	INT	REF	SAV	SOM	WIL
Morph Bonus							

Positive & Negative Traits / Advantages & Disadvantages

APTITUDE MAX	SPEED MOD	MOVEMENT RATE / MOBILITY SYSTEM

DURABILITY	WOUND THRESHOLD

Implants / Enhancements / Customizations