

The Traveller Book

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Science Fiction Role-Playing Game Rules and Adventures
By Marc W. Miller
Game Designers' Workshop



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The Traveller Book



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The Traveller Book

TRAVELLER[®]
Science-Fiction Adventure
in the Far Future
By Marc W. Miller

Game Designers' Workshop

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by Marc W. Miller

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Traveller is Game Designers' Workshop's registered trademark for its role-playing game of science fiction adventure in the far future.

The game presented in **The Traveller Book** envisions a referee or umpire as the ultimate supervisor of play. The publisher is prepared to answer questions about **Traveller** provided a stamped, self-addressed envelope accompanies the request.

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Table of Contents

INTRODUCTION	9	Weapons Usage	38
Adventuring in Traveller	9	Combat Equipment	38
Getting Your Feet Wet	9	Special Considerations	43
Required Materials	10	Weapons and Equipment	44
Definitions of Terms	11	Encounters	45
Procedures	11	Surprise	45
Referee Responsibilities	12	Encounter Range	45
Conduct of the Adventuring Session	14	Escape and Avoidance	45
Die Rolling Conventions	16	Morale	45
CHARACTERS	17	Weight Limitations	45
Initial Character Generation	17	Gravitational Effects	45
Characteristics	17	Cover	45
Acquiring Skills and Expertise	18	Concealment	45
Mustering Out	19	Zero Gravity	45
Aging	19	Darkness	45
Non-Player Characters	20	Typical Actions	45
Career Types	20	Weapons and Range Matrix	46
Skills	21	Basic Throw To Hit	46
Available Skills	21	Combat Procedure	46
Character Generation Checklist	24	Allowed Die Modifiers	46
Basic Skill Eligibility	24	Attacks	46
Muster-Out Benefits	24	Physical Characteristics	47
Hexadecimal Notation	24	Wounding and Death	47
Prior Service Table	24	Range Bands	47
Table of Ranks	24	Ranges	47
Mustering Out Tables	24	Antique Equivalents	48
Acquired Skills Tables	25	TRAVEL	49
Aging Table	25	Interplanetary Travel	49
Noble Ranks	25	Interstellar Travel	49
Retirement Pay	25	Lesser Known Aspects of Space Travel	50
Rank and Service Skills	25	Starship Malfunctions	51
Blades and Polearms	25	STARSHIP ECONOMICS	52
Guns	25	Starship Purchase	52
Cascade Skills	25	Starship Expenses	52
Other Skills	29	Revenue	53
Mustering Out Benefits	29	Trade Customs	53
A Note on Gender and Race	30	Typical Interstellar Journey	54
Formats	30	Typical Interplanetary Journey	54
Merchant Captain Alexander Jamison	30	Travel Formulae	54
Personal Data and History (TAS Form 2)	32	Typical Travel Times	54
PERSONAL COMBAT	33	Ship Expenses	55
Basic Combat Concept	33	Crew Salaries	55
Encounters	33	Typical Distances	55
Combat Procedure	34	Ship Revenues	55
Initial Encounter Procedure	34	Malfunctions	55
The Combat Round	34	Passengers	55
Movement	34	Cargo	55
Combat Resolution	35	Typical Activities	55
The Effects of Characteristics	36	SHIP DESIGN AND CONSTRUCTION	56
Expertise	37	Ship Design	56
Weight	37	Required Starship Components	56
Morale	37	Standard Hulls	58
Typical Actions	37	Computers	58

Drives and Power Plants	58
Drive Potential	58
Weapons and Mounts	58
Fittings	58
Software List	58
Bridge	58
Armaments	58
Crew Requirements	59
Construction Fees	59
Fuel Consumption	58
Starship Design Checklist	59
Standard Vehicles	59
Standard Ship Designs	59
Optional Components	60
Ship Crews	60
Weaponry	61
Small Craft	61
Building Custom Ships	67
Formats	67
Deck Plans	67
Ship's Papers (Commercial) (TAS Form 3)	68
COMPUTERS	70
The Software List	70
Writing Computer Programs	71
Small Craft Computers	71
Using the Software List	71
SPACE COMBAT	72
Turn Sequence	72
Preparation for Play	72
Movement	73
Gravity	73
Laser Fire	73
Attacker's DMs	74
Defender's DMs	74
Hit Locations	74
Critical Hits	74
Scales	74
Game Turn Sequence	74
Ship's Data Card Example	74
Computer Software List	75
Detection	75
Starship Encounters	75
Standard Small Craft	75
Special Rules	75
Laser Return Fire	76
Ordnance Launch	76
Detection	76
Damage Definitions	77
Special Situations	77
Starship Encounters	78
Planetary Templates	78
Standard Worlds	79
WORLDS	80
Star Mapping	80
World Creation	81
Technological Level	82
Referee's Notes	82
Trade Classifications	83
System Contents Table	84
Starport Types	84

Travel Zones	84
Size	84
Atmosphere	84
Hydrographics	84
Population	84
Law Level	84
Government	85
World Generation Checklist	85
Tech Level Table	85
Technological Levels	85
Trade Classifications	85
Technological Levels	86
Subsector Map Grid	88
ANIMAL ENCOUNTERS	90
Creating Encounter Tables	90
Using the Encounter Tables	92
Animal Definitions	92
Terrain Types	94
Encounter Columns	94
Animal Types	94
Animal Attributes	94
Animal Sizes and Weaponry	94
Animal Characteristics	95
Typical Animal Encounter Table	95
Encounter Table Generation Checklist	95
Events	96
ENCOUNTERS	98
Routine Encounters	98
Random Encounters	98
Rumors	99
Legal Encounters	99
Patrons	99
Adventure Encounters	99
Encounters	100
Routine Encounters	100
Legal Encounters	100
Animal Encounters	100
Adventure Encounters	100
Encounter Checklist	100
Patron Encounters Matrix	100
Patron List Two	100
Patron List One	100
Random Encounters Matrix	101
Random Encounter List	101
Rumors Matrix	101
Rumor List	101
Reactions	101
Available Weapons by TL	101
Prohibited Weapons by LL	101
Animal Encounters	102
Reactions	102
Referee's Responsibilities	102
EXPERIENCE	103
Education	103
Weapon Expertise	103
Skill Improvement	103
Physical Fitness	103
Alternatives	103
TRADE AND COMMERCE	104
Procedure	104

Trade Goods	104
Trade and Speculation	105
Actual Value	105
Trade and Speculation DMs	105
Drugs	105
DRUGS	106
Specific Drug Types	106
Antidotes	106
Drug Availability	106
EQUIPMENT	107
Personal Equipment	107
Personal Devices	108
Sensory Aids	108
Tools	109
Shelters	109
Communicators	109
Food and Overhead	109
VEHICLES	110
Aircraft	110
Grav Vehicles	111
Wheeled Vehicles	111
Tracked Vehicles	112
Watercraft	113
Interplanetary Vessels	113
Personal Equipment	114
Sensory Aids	114
Tools	114
Communicators	114
Personal Devices	114
Vehicles	114
Small Craft	114
Weaponry	114
Body Armor	114
Shelters	114
Psionic Skill Summaries	115
The Psionic Institute	115
Psionic Talents	115
Psionic Ranges	115
Range Descriptions	115
PSIONICS	116
Psionic Strength	116
Training	116
Range	117
Telepathy	117
Clairvoyance	118
Awareness	119
Teleportation	119
Special	120
Recovery	120
Psi-Drugs	120
Psionics in Human Society	121
BASIC TRAVELLER ACTIVITIES	122
First Activities	122
Starship Activities	122
Adventure Activities	122
Play Traveller	122
REFEREE'S GUIDE TO ADVENTURING	123
An Adventure Guide	123
Traveller Adventures	124
Traveller Campaigns	125

INTO THE SUBSECTOR	126
Patron Encounters	126
Casual Encounter	128
Amber Zone	129
SHADOWS	130
Standards and Assumptions	130
Characters	130
Equipment	130
Ship's Locker	130
Available Equipment Table	130
Shadows	131
Inside the Pyramids	132
Entry Points	132
Interior Features	133
The Individual Locations	134
Interior Level Locations (1-13)	135
Deep Level Locations (14-24)	137
Power Plant Level Locations (25-32)	138
Animal Encounters	139
Encounters	139
The Animals	139
Seismic Tremors	139
Animal Encounter Table	139
Referee's Notes	140
EXIT VISA	141
Standards and Assumptions	141
Characters	141
Ship's Locker	141
Free Trader Beowulf	142
The Situation at Alell Down Starport	142
Options Available	142
Time Spans	142
The Bureaucracy on Alell	143
The First Encounter	143
Meeting Officials	144
The Officials	144
Administering the Officials	145
Crime	146
The Commemorative Society	146
Referee's Checklist	146
Where to from Here?	146
TRAVELLER'S GUIDE TO THE UNIVERSE	147
The Imperium	147
The Structure of the Imperium	148
The Megacorporations	148
The Spinward Marches	149
REGINA SUBSECTOR	150
LIBRARY DATA	152
Library Data Entries	152
PRE-GENERATED CHARACTERS	157
Character List	157
Thugs, Brigands, and Assailants	157
ANIMAL ENCOUNTER TABLES	158
THE TRAVELLER SERIES	159
Traveller Starter Sets	159
Books	159
Supplements	159
Adventures	159
Games	159
<i>The Journal of the Travellers' Aid Society</i>	159

To Darlene

Introduction

Welcome to the universe of **Traveller**! In the distant future, when humanity has made the leap to the stars, interstellar travel will be as common as international travel is today. **Traveller** is set against that background drawn from adventure oriented science fiction. The scope and breadth of this game are limited only by the imagination and skill of the players and their referee. **Traveller** is an entire universe to be explored, where almost any situation which occurs in a science fiction novel, movie, or short story can be recreated with only a little work on the part of the referee.

Traveller postulates that mankind has conquered the stars, and that travel from one stellar system to another is commonplace. However, the tremendous distances involved dictate that interstellar voyages can take weeks, months, and sometimes even years. A situation similar to Earth in the eighteenth century is created, where communication is limited to the speed of travel, and the stage is set for adventure in a grand fashion, with all the trappings of classic science fiction: giant, star-spanning empires (good, evil, or both), huge starfleets, wily interstellar merchants (or pirates, depending upon your point of view), complex diplomatic maneuvers, larger-than-life heroes, heroines, and villains.

The Character: Into the midst of all this is thrust the player, whose alter-ego in the universe of **Traveller** (the character) interacts with the referee (who administers and, in many cases, creates the details of the universe) in an informal session of role-playing called an adventure. The attributes of the player's alternate persona are numbers generated by rolling dice, and these characteristics aid the referee in determining how successful characters may be in achieving whatever goal is set for them.

Traveller is open-ended, which means that there are no set conditions for winning. Each player sets his or her own goal, and has a lifetime (in game terms) to achieve it. **Traveller** can continue for as long as the referee and the players desire. Like the universe, **Traveller** has no limits.

This book contains all rules needed to play **Traveller**, plus enough introductory background material and scenarios to permit even beginners to start playing as soon as possible. Subsequent books in this series will expand upon various segments of the **Traveller** universe, treating certain selected areas in more detail. But this book contains all the rules you will need to play. Everything else is supplementary.

ADVENTURING IN TRAVELLER

Traveller is a set of detailed rules covering how the universe operates. These rules govern day-to-day activities to be expected for any individual. Against this background of basic information, players can work, earn money, travel to distant worlds, and lead exciting lives of daring and adventure.

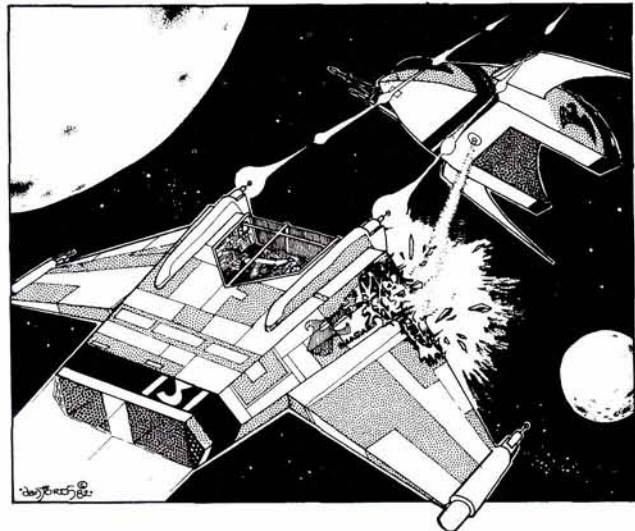
But **Traveller** does much more. The characters have an opportunity to undertake genuine adventures as they search for their own self-appointed goals. Some adventures happen as a result of day-to-day activity. Some occur as players use pre-written adventures. This book includes two detailed adventures ready to play. One investigates an alien structure, and the players must solve its mystery if they intend to leave the world alive. The other pits the adventuring group against an impersonal bureaucracy: if the captain is to keep his ship, the players must all work together to convince petty bureaucrats to grant them an exit visa.

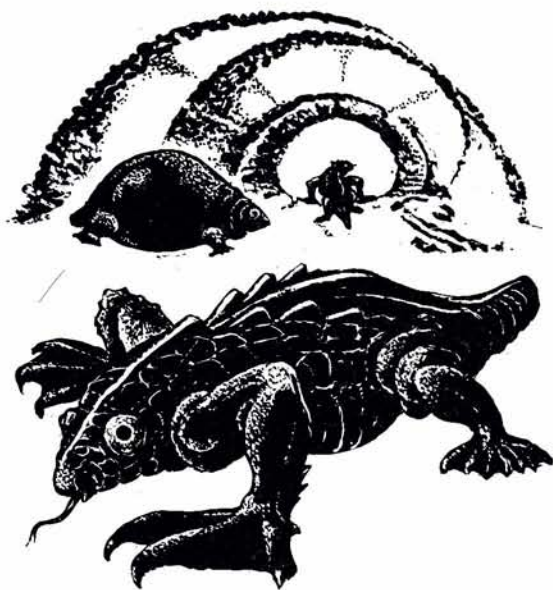
Most **Traveller** adventures come from the referee's own imagination. Each new world is an opportunity for the referee to present a new situation to the players, who must cope with this scenario if they are to progress in their own adventures.

GETTING YOUR FEET WET

Since the **Traveller** approach is role-playing, players and referees experienced in other role-playing games should have little trouble. There are, however, a number of features which make **Traveller** unique among role-playing games:

The Character Generation System: Unlike most other role-playing games, **Traveller** does not simply dump inexperienced 18-year-olds into the world and let them fend for themselves. In **Traveller** it is possible for a character to gain experience for up to 28 years in one of the six prior services (army, navy, marines, scouts, merchants, and the nebulous other). In practical terms, this means a band of adventurers will not consist entirely of striplings. Some may be inexperienced, but there will also be characters from all levels of experience, and from all walks of life. A character has a past and can be more than just a series of numbers on





a sheet of paper. A character picks up skills (like computer programming or navigation) during prior service, more being accumulated the longer the time served, but there are a number of trade-offs to be made. The longer the service career, the more skills acquired, but also the older the character becomes, losing dexterity, endurance, and strength.

Animals and Animal Encounters: The various lifeforms which players are likely to encounter on their voyages through the cosmos are described not in terms of physical characteristics (lionoid, bear-like, pseudowolf, etc) but in terms of their size, behavior, and the ecological niche which they fill on their particular world. Physical descriptions are also possible, but this ecological system is a universal approach that deals with relatively constant essentials of animal life.

Flexibility: The basic rules of *Traveller* contained in this book are flexible enough to allow almost any science fiction theme to be recreated without significantly disturbing the balance of play. The basic rules deal only with the major aspects of the way the universe works, allowing the referee to fashion details to suit individual preferences. The technological levels of the various cultures players will contact in the course of play can be set at any level desired from the primeval past (tech level 0) through present day Earth (about tech level 7.5) to the barely conceivable wonders of the distant future.

Referees can adjust the complexities of their universes to their own and their players' abilities, gradually moving upward in complexity as more expertise with the various systems is gained. Playing *Traveller* can be a challenge to all ages, all intellects, and all levels of role-playing experience.

Economics: A detailed but simple system allows the intricacies of interplanetary and interstellar trade to be represented, without dominating the referee's attention. Trade and commerce can be accomplished with a few rolls of the dice, and the system is simple enough to allow players to handle most of it if the referee desires. With minimal exertion, players can attempt to establish mighty

trading corporations, spanning many star systems, or simply ply the space-lanes with a single decrepit free trader, desperately trying to keep one step ahead of their creditors while dreaming of that deal to end all deals.

The Combat System: Naturally, not everyone (or everything) the players meet will be friendly, and it will occasionally be necessary for some characters to resort to violence. *Traveller's* combat rules allow for fights ranging from simple bare-knuckles fisticuffs to engagements between starfleets, and everything in between (including combat with animals). Every personal weapon from broken bottles to energy weapons is taken into account.

Psionics: *Traveller* includes a section covering psionic abilities for those who feel that no game is complete without a sixth (or seventh) sense. Clairvoyance, telekinesis, telepathy, and other abilities are defined, regulated, and smoothly integrated into the game rules.

Starship Construction: Referees and players can design and build spacecraft ranging in size from one-passenger fighter craft to giant starships, both military and civilian. The design and construction sequence is a game in itself, as the designer tries to fit every component considered necessary into a hull that always seems too small. The struggle to make an effective ship that is also efficient seems never-ending.

REQUIRED MATERIALS

This book contains all the rules necessary to begin playing *Traveller*. The rules provide for solitaire and unsupervised play, but the highest form of the game, the one that is most fun, requires that someone act as referee. Traditionally, this person is the one most familiar with the rules. Indeed, the players need not know the rules at all in order to play, but enjoyment will be enhanced if everyone knows a little about what is going on. An independent, non-involved referee allows a degree of flexibility and continuity not possible when the players themselves control the game. A referee inserts a measure of uncertainty into the minds of the players as they play. Finally, a referee deals with situations that the rules may not cover; after all no set of rules can totally define the universe and how it works.

Traveller is a conversational game, and as such has no board or playing surface, but it does require certain materials in order to play. The referee will need this book, a number of six-sided dice (two per player, plus a few extra), writing instruments (pencils, pens, colored markers, and so on) and paper (scratch paper for lists and computations, graph paper for diagrams, and other types such as index cards or tracing paper).

Forms: Scattered throughout several chapters are various prepared forms. One is used to record the specifics of a character; another records data about a starship. The forms provided are intended for use by the referee and the players as they generate information during the game. They have been printed on the page to allow maximum ease of reproduction, such as photocopying. Once two copies have been made, they can be positioned side by side on the photocopier and multiple copies can be run off.

Using These Materials: The exact use of all these ma-

materials will be explained later in this book, since the course each individual game takes will determine what materials are needed.

The most important requirement, however, is imagination. Without imagination, **Traveller** is simply a dull, tedious routine of rolling dice and reading tables. With it, **Traveller** can be a vehicle to carry you to the limits of the universe.

DEFINITIONS OF TERMS

Traveller uses certain words and abbreviations in a unique manner, and in order to be able to properly understand the **Traveller** rules, players and referees should acquire some familiarity with these terms.

The following words, phrases and abbreviations are commonly used in **Traveller**:

Character. The fictional role played in **Traveller**. Player characters are manipulated by the players; non-player characters are manipulated by the referee.

Credit (abbreviated Cr). The monetary unit in **Traveller**. For very large amounts of money, the megacredit (abbreviated MCr) represents one million credits.

Die (plural is dice). A random number generator. In order to make events relatively unpredictable by the players, events are often given probabilities of occurring. Dice are used to generate random numbers that represent these probabilities.

Die Roll (also Die Throw). The actual use of dice to create a random number.

Die Modifier (abbreviated DM). A number added to or subtracted from the die roll to obtain a modified result. DMs represent efforts to change probabilities in favor of or against some result. Characters may be allowed beneficial DMs because they have requisite skills, or they may be penalized by negative DMs because they lack strength or intelligence.

Encounter. The meeting of one or more characters and one or more persons, things, or events. Encounters may or may not result in significant interaction with player characters. An encounter with a clerk in a store is not likely to be of great importance, and it may not even be mentioned to the players. An encounter with a band of cut-throats late at night or a pack of wild animals could permanently affect the characters, and is dealt with in detail. A large part of a referee's job is the administration of encounters.

Jump. A trip from one point in space to another using jump drives, at greater than the speed of light. A jump is made by leaving the universe of the game and travelling through a different plane of existence (called jump space in **Traveller**, but often referred to as hyper-space or tau-space in science fiction literature).

Non-Starship. A spaceship without a jump drive, and thus incapable of interstellar travel on its own.

Patron. A non-player character used by the referee to create an encounter for player characters. Patrons are usually used to motivate players to move in a direction more fully in tune with the wishes of the referee, or to provide income or diversion for player characters.

Referee. An individual who creates and administers a hypothetical universe, and adjudicates conflicts between

the players and other inhabitants or forces within that universe.

Skill. An ability to perform a set action, such as navigating a starship, operating a rifle, or programming a computer. Skills are attained in levels (navigation-1, computer-2, etc); the higher the level of a skill, the more expertise a character has in that area. Many different individual skills are available to characters.

Starport. A facility for the service of interstellar and interplanetary vessels of all sorts, and for embarkation and disembarkation of passengers and cargo.

Travellers' Aid Society. A private interstellar organization which maintains hostels and facilities at various starports throughout our **Traveller** universe.

World. Any inhabited body. A world could be a planet like Earth, a satellite of a planet, an airless planet with domed or underground cities, a hollowed-out planetoid, an artificial construct such as a space station or L-5 type colony, or a more complex artifact such as a ringworld or rosette.

Universe. The totality of existence for the player characters, the mythos, the informational background created by a referee. In **Traveller**, universe refers to the game "reality" in which the characters controlled by the players interact with the various characters and forces controlled by the referee.

PROCEDURES

To a certain extent, **Traveller** is a contest between the referee and the players, as the referee represents all the nasty things that the universe can throw at people. As such, it is very easy for a referee to come to view the players as "the enemy", whose every move is to be thwarted, and to take every opportunity to make things tough on the players, throwing problem after problem their way and piling disaster on top of disaster. This makes the players sullen and suspicious, and spoils the entertainment value of **Traveller**. A referee's fun in **Traveller** is different from a player's fun. While players plot and scheme on the basis of (often) incomplete data, the referee sees all and knows all.



Observing the reactions of different people to the same problem, or watching an intricate plan unfold (and often turn out quite differently from what the players had intended); these and more are **Traveller's** rewards for the referee.

To begin, start out small, especially if you are also new to **Traveller**. Don't try to run something of breathtaking scope the first time out; the record-keeping alone will overwhelm you and your players will rapidly lose interest.

First Approaches: There are several approaches to the first few games; which one you choose depends on the experience you and your players have had.

An experienced player refereeing other experienced players for the first time will have few problems. Playing experience will have shown where the pitfalls are, and the referee probably has some idea of what is interesting.

If both players and referee are neophytes, neither really knows what to do, and everyone should show patience.

Play a few scenarios before proceeding to a campaign. A scenario is like a science fiction novel; the players are given some specific goal and the adventure occurs as they try to attain it. Scenarios can be one-time affairs, ending when the goal is achieved. Everyone quits and the characters are discarded. Create a scenario as you would a story, with something to be achieved and difficulties strewn in the path of that goal. Scenarios can be as complex as the referee feels necessary, ranging from the simplest plot devices to complex adventures worthy of a great adventure writer. To help the beginner get started, several introductory adventures are included in this book.

In devising scenarios, you may find it necessary to create from scratch such items as a plan of a large office building, a terrain map of an area of countryside, or something similar. If you are a wargamer, you may already have a ready-made source of such items available to you. Maps from many games can be adapted for use in a scenario, especially games on a tactical level. It will probably be necessary to re-designate some or all of the terrain features on such a map. In addition, it may be possible for you to draw inspiration from real life. If, for instance, your players want to rob a bank and want a diagram of the building from which to make their plans, simply tell them that the bank looks exactly like some local bank or similar building with which they are all familiar. Discourage them from "casing the place" in person, however. The real-life security guards might become suspicious, and real-life problems could occur. Likewise, if you need a plan for an office building, park, or other building complex, use some suitable local institution, calling upon the players' memories or diagramming it yourself. If you do not have knowledge of the full details of a building, make up whatever is needed (it may be necessary to change some details anyway, especially if players are more familiar with the building than the characters can be allowed to be).

After you have been through a few scenarios, your players will find themselves becoming attached to certain characters and expressing a desire to let them continue from one scenario to another. A campaign need be nothing more than a series of scenarios, set against a common background and using common characters. After you have played a few scenarios, determine what your players want

to accomplish. Some groups will want to become pirates, some soldiers of fortune, some merchants, some confidence men, some will want to carve out their own empires, others will want to explore unknown regions of space. Adjust the subsector you create to fit your players' desires. If, for instance they show an interest in exploration, don't start them out in the middle of civilized space; put them on the fringe of known territory. Give your players obstacles to overcome in seeking their ultimate aims, but don't make these obstacles too difficult or the players will become frustrated. Conversely, don't make things too easy or they will become bored.

The main thing for referees to avoid in starting out is taking on more than they are able to handle. It is an easy thing for a referee to be pushed into a campaign by anxious players before he or she is properly prepared for it. Trying to go too far too soon leads to a referee that feels overworked and players that feel bored, a sure formula for an abandoned game.

REFeree RESPONSIBILITIES

The purpose of a referee is to present obstacles for players to overcome as they go about seeking their goals, not to constantly make trouble for them. This is a very subtle distinction, and one which many beginners have trouble with.

Attributes of a Good Referee: Other than the right attitude, what characteristics must a good referee have?

First of all, imagination. Without an imaginative referee, the game is merely rolling dice and reading tables. Fortunately, imagination is the one thing that science fiction readers in general and **Traveller** players in particular have in abundance.

Second, the ability to improvise. Oftentimes, situations arise where the referee will be called upon to make up something on the spot, such as the cargo of a randomly encountered starship or the personality of a patron. The necessity to improvise can be minimized with proper planning and organization, but it cannot be eliminated entirely.

Third, a sense of proportion is required. Rewards should be proportionate to the risk the player characters take, neither too much nor too little. A common way beginners maintain player interest is to hand out ludicrously large rewards for successful completion of the most insignificant actions. The players rapidly accumulate enormous sums of money, and come to see it as their sole purpose in the "lives" of their characters. In addition, they will rapidly overwhelm **Traveller's** carefully balanced economic system. Players will cease to find life a challenge, and become bored. If the referee tries to get tough later, players will demand to know why they are not paid as much now as they were once paid for similar activities and will become dissatisfied. Either way, the game is a loser. Arrange things so that your players have to constantly scramble for eating money for the first few months of their characters' "lives". You and they will both enjoy the game more.

Lastly, it is important for the referee to be organized. The reasons for this should be readily apparent. Nothing slows a game down more than a referee who must rummage

through a briefcase filled with hundreds of random sized sheets of paper while searching for the details of a particular world or installation. The exact system is not important; you may use whatever you feel like (manila folders, index card files, ring notebooks, home computers, and so on) as long as you can rapidly retrieve information from it.

Preliminary Steps: Once the referee has settled on the background for his or her universe, accumulated a group of players, and created characters, then what? The referee still has a few duties to perform before the first adventure. In all likelihood, the players will be dumped into the middle of a new situation. If the adventure were "real life", the people involved would know what they had done with their lives up until that time, they would know where they were and how they got there, and might have a halting familiarity with the geography of the region. It is necessary for the referee to divide the information about his or her universe into four parts: 1) information which player characters would logically know by virtue of what they are, 2) information which player characters can find out with little or no cost, 3) information which player characters can find out only at great cost, and 4) information which the player characters would be unable to find out by their own efforts.

Type 1 could be such things as how to behave in polite society, or some simple data about a planet if the character has navigation skill. Type 2 could be information obtained from a library, from asking around at bars, hotel lobbies, and so on, or obtained by direct observation of some event or condition. Type 3 could be information that requires the theft of one or more documents (payment in time) or the bribery of some official (payment in money). Type 4 should be information about the true nature of reality, perhaps the fact that the information contained in the library is false with regard to the planet mentioned above, or other information for the referee's eyes only.

Players can generally be trusted to keep track of their own characters' finances and possessions, which will save the referee a great deal of time and trouble. Occasional surprise audits, however, can be conducted to help keep them honest.

The beginning referee should keep the group small, even when he or she has had experience playing. There should be no more than three or four people in the first group you run. As you gain experience in refereeing, you will be able to expand this number, but try not to allow it to get too large for you to handle.

The rolling of dice is a convenient way to represent unknown variables or to assist the referee in making decisions. Feel free to modify the results if you do not like the way they turned out. Change a death result to a severely wounded result if you feel a character has behaved heroically and deserves a second chance, or kill off one who has done something incredibly dumb but lucked out on the die roll. Be fair in doing this, however, and try not to be too heavy-handed. Most players feel better if their character is done in by the die roll than if killed by fiat.

The use of non-player characters is one of the most important things for a referee to learn. Non-player charac-

ters are the population of your universe other than the characters controlled by your players. Through non-player characters you can give the players rumors, hints, and threats, help them out of tight spots, lure them into tight spots, get them back on the track, lure them away from their objective, and generally help or hinder the characters as much as is necessary. Non-player characters provide a major link between player characters and the referee and offer the referee a chance to get in on the fun.

The referee plays the non-player character whenever one of the player characters has contact with one of them. Exactly how this is done depends to a great degree upon the talents of the referee. Some referees are able to assume a non-player character's personality and play the part to





perfection, carrying out an actual conversation with the player complete with accents, body language, gestures, subtle variations in tone and pitch of voice, and so on. Less theatrically inclined referees, or those who cannot think as fast, are rarely able to give such a performance, and more often must describe what the non-player character is saying and doing rather than perform it.

Non-Player Characters: There are four sorts of non-player character: spear carriers, informants, patrons, and trouble-makers. Spear carriers (called extras in the movies) serve to provide atmosphere, needed skills the players might not have, or cannon fodder (in case a referee wants to show what great danger the players are in by killing someone but does not want to do in one of the players). Informants serve to give the players information, and are ideal for those situations in which the referee needs to give false data, but does not feel like lying to the players outright. Informants may be experts the players consult (such as a university professor or scholar), passengers or crew of a starship the players are on, or people the players casually meet in the course of seeking rumors or employment. A patron is a non-player character who has a job offer for one or more of the players. The patron provides some of the information the players will need to carry out the job (rarely will all information be provided; the players must find some things out for themselves), and will offer a reward of some sort. Trouble-makers are specifically intended to cause problems for the characters. Trouble-makers include police, customs, tax, and immigration officials, other government red-tapers, thugs, ruffians, hijackers, thieves, con-men, religious fanatics, and so on. The presence of trouble-makers may or may not be immediately obvious to the players.

Many NPCs must have as detailed a character development as player characters do, and should be given a great deal of careful attention if they are intended to stay around for a while. NPCs are often needed on the spur of the moment; use the characters you generated while learning to use the system.

CONDUCT OF THE ADVENTURING SESSION

Sessions should be conducted in some relatively quiet, comfortable place where there is room for the referee to lay out his or her materials out of the direct vision of the players, but close enough for conversation. If the quarters are too close, it may be necessary for the referee to use a screen of some sort (a passable screen can be made by taping sheets of cardboard together, accordion-style) to prevent the players from reading the referee's information sheets.

Beginning: During the first adventuring session of a campaign, or at the beginning of a scenario, take a moment out to determine a little background data. Why are the characters where they are, and why are they together? Working out this background data will help the players get into their roles. A close examination of the characters themselves can often help with this. Are several of the characters former navy personnel? Obviously they met in the service and became friends, deciding to seek their fortunes after they were all discharged on the same planet. Perhaps the characters are distantly related, or have mutual friends, or are old schoolchums. A little imagination can come up with a reason why these people want to try a group effort, and will give the players some clues to later behavior.

When the background is sketched in, give the players such information as they would logically have. Where are the characters, and how did they get there? Are they actively looking for work, or were they sought out? Is there a patron involved? What are the characters in the players' group supposed to do? What will be their payment if they are successful? What do they need to find out to carry out the task? What equipment is available? And so on.

Give the players a few minutes to talk the job offer over and then ask them to decide their actions. One player should be chosen to speak for the group as a whole. If the group wants to split up and do different things, try to talk them out of it unless a) one of the splinters will be carrying out an action which will require little or no continuing action on the part of the referee, such as research in a library, b) the groups will rejoin quickly, or c) you have one assistant referee available for each separate group of players. Beginners will find keeping track of two or more lines of action while running back and forth from one room to another grueling and the players who are not with the referee at the moment will become mightily bored.

When the player's initial actions are made clear to you, (don't be afraid to ask questions) figure out what will happen to them as a result of those actions. If, for example, the group wishes to adjourn to a library to search for information they want, the referee should consider where they are and how long the trip will take. If they are hundreds of kilometers from a settlement, it may take some time just to get to the library. If they are in a hotel lobby and there is a computer terminal ten meters away which hooks into a planet-wide information grid, only a few seconds will pass. How long it takes the group to find out what they are after depends on what the information is (they could not, for instance, use a library to find out the specifications of the local prison's latest security procedures)

and how the players go about searching for it. It is easier to find something out if you know a little about what you seek, and know what to look for. The referee must decide how much information the group can find out, and how long it will take them. The referee reveals the information the players have discovered, and tells how much time was used up, and any other relevant details (or irrelevant details intended to throw the players off track) that the player characters may have noticed, like the fact that someone is following them as they leave the library.

Many times, it will be useful to think of a situation in present day terms, scaled down a little. For starport, think of airport or seaport. For world, think instead of country. The use of analogies will help you to resolve most situations easily.

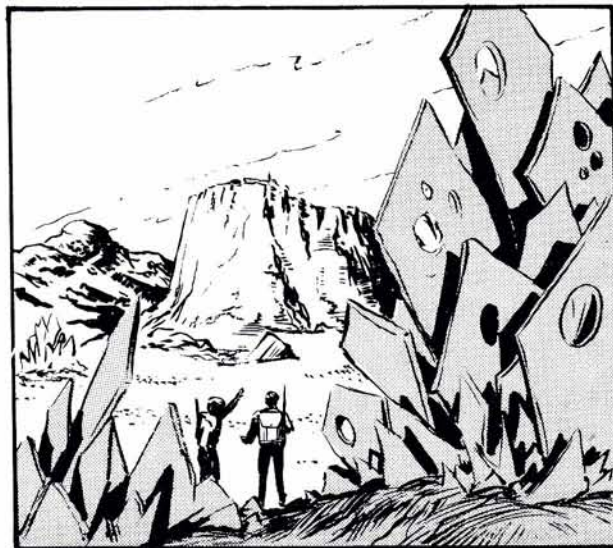
Game Time: The passage of game time is of great importance. Player characters' actions must be measured against those of the rest of the universe. One of the most important parts of being a good referee is keeping proper track of the passage of game time. One of the greatest tools available to a referee is the ability to make players waste game time on items unrelated to the task at hand, especially if the group is working against a specific deadline. The ratio of real time to game time is left up to the referee. Obviously, it must be a flexible ratio, depending on circumstances.

Referees should watch out, however, for situations which take almost no game time, but take a great deal of real time. For instance if a character wants to know certain details of a door he is about to go through, he might ask "How big is it?" On being told, he might ask "Is it shut or open? Can I see anything through it or is the area beyond it dark?" All of this information could be gained in a few seconds of observation if the player were actually present; it is the artificial nature of the game that makes it take so long. Referees should not count this against the passage of game time.

In addition, the passage of time may cost the characters money. Characters must eat and must have lodging. Characters who suffer aging effects may require medical care. Starships must be maintained at regular intervals, or they will deteriorate. Simply by causing the players to become side-tracked while investigating some minor puzzle, a referee can cause their schedule to become upset and their intricately planned schemes to fail.

Outside Influences: The actions of forces in the universe other than the players should not be neglected, and must be almost constantly on the referee's mind. A group of characters might run afoul of the law while completing a job, or might anger some local criminal organization. If the referee decides that something of this nature has happened, he or she must decide what action (if any) the offended party (or parties) will take, how long that action will take to put into motion, and what effect the action will have on the players. Sometimes it will be necessary for a referee to keep track of several such "plots" at once, while running a group of player characters who are often blissfully unaware of the happenings around them.

As the session continues, the players will often engage in discussions of varying lengths. The referee should try to



keep these discussions on track (don't let them stray to outside events, such as a replay of last night's football game, or a blow-by-blow of a similar situation in another game), but otherwise should let them run their course. As the discussion takes place, the referee should consider what is really happening to the characters and how long it takes in game terms. If the characters begin a loud argument in the middle of a restaurant, for instance, the owner will interrupt them and ask them to leave. If the adventurers are having the argument in the privacy of their own spaceship, however, the referee need only figure out how much game time the discussion takes, and let it run its course. Many times, these interludes will allow the referee time to "catch up" with the action, and plan out what will happen to the characters next. Keep half an ear tuned to what they are saying, and offer such advice as may be needed, but otherwise, enjoy the short break from the frantic activity of refereeing. As the adventure progresses, the referee will often have the urge to "help out" the players by providing them with information that they otherwise would not, or could not logically know. This is poor form, and the referee should resist this urge whenever it arises. The function of a referee is to guide, not control. The only time a referee should directly intervene is when a group of beginners has gotten itself into such a hopeless situation that the referee is certain it will not be able to extricate itself, and the referee does not wish to force the full consequences upon the players. As the referee gains experience in indirectly giving information to the players (through non-player characters, rumors, library data, and other sources), the urge to hand out "divine revelations" will lessen.

Direct intervention of the referee in a situation is also poor form. Referees should not get into the habit of stepping into their universes to put right some anomaly unless there is no alternative. Many referees use this course of action instead of thinking of a more subtle means of correcting a situation. The hand of a good referee, like that of a good puppeteer, should be invisible.

As referee, don't be afraid to kill off characters who have gotten themselves into tight spots, especially if they

have done so as a result of foolhardy play. In the so-called real world, the clever, heroic individuals are as often struck down in their prime as the rash, incautious types. Conversely, it is a good idea to be compassionate now and then. It is very easy for a player to become heavily ego-involved with a character, and resent what appears to be arbitrary cruelty by the referee. Sometimes a particular character will deserve a miraculous escape from a tight spot. This is perfectly acceptable, as this sort of thing happens in the "real world" also.

The End of the Session: An adventuring session should end when the players' goal is reached if a scenario is being conducted, or when some convenient stopping place is reached if a campaign is being undertaken. In any case, the session should be ended before the players or referee are exhausted (four to six hours is a fair limit). It may not be possible to resolve a particular scenario in one session, and certainly will not be possible to exhaust the possibilities of any competently designed universe in such a time. When a stopping point is reached (usually some temporary lull in the action, when the players are guaranteed safety for the next few minutes of game time) the referee should make written notes of the situation, paying particular attention to the condition of characters and noting any special aspects of the situation (if they are on a vacuum world with their air supply running out, and so on). The session can then be picked up where it stopped during the next session, even if considerable time passes.

When the players have accomplished their goal, the scenario is over, but if the session is part of a campaign, the referee's work is not yet ended. The referee must determine whether the players will receive the reward they were promised (this should usually be the case, but having a patron skip out without paying is a useful plot device). Additionally, the referee should decide if the actions of the players (either in the process of completing the job or some activity they have done unrelated to it) have caused them to gain

friends or enemies. If this happens, the referee should figure out who these NPCs are, how happy or angry they are with the players, and what action, if any, they will take, either on the players' behalf or against them. Friends in high places can be very beneficial, and enemies anywhere add excitement and thrills to any campaign. If your players should happen to run afoul of the law, pursue them with any interplanetary or interstellar agencies the crime makes appropriate. There's nothing like being chased by some interstellar version of Interpol or the KGB to add spice to a character's otherwise dull, drab, wretched existence.

Obnoxious or obstreperous behavior should not be tolerated by the referee. A word or two of warning may be adequate, but a continually disruptive player should be ejected from the group. The referee owes this to himself and to the other players.

By the same token, a referee has a duty to the players to remain calm and collected. Losing one's temper is no fun for anybody involved.

As time passes, the referee will gain experience, and the players and referee will become accustomed to each others' styles and desires. Adventuring sessions will become smoother and the pleasure received from an evening's adventure will increase for all involved.

DIE ROLLING CONVENTIONS

Routinely in the course of *Traveller*, dice must be thrown to determine an effectively random result or unpredictable course of action. These dice throws may be made by players for their characters, or by the referee for the effects of nature, non-players, or unseen forces. Rolls by the referee may be kept secret or partially concealed depending on their effects. In situations where the players would not actually know the results of the roll or would not know the exact roll made, the referee should make the roll in secret. Generally, a dice throw involves two dice; exceptions requiring one die or three or more dice are clearly stated. The number of dice is either stated directly (one die, four dice) or abbreviated to save space (1D, 4D). The following terms and conventions for dice throws apply to the game.

Throw: That dice roll required to achieve a stated effect. If only a number is stated, it must be rolled exactly. A number followed by a plus (such as 8+) indicates that the number or greater must be rolled. Similarly, a number followed by a minus (such as 6-) indicates that that number or less must be rolled. Throws can be identified because the sign follows the number.

Die Modifier (abbreviated DM): A number to be applied to a die roll before it is used. Die modifiers are preceded by a sign which indicates whether the number is to be added to or subtracted from the die roll. Thus, +4 would be added to the die roll while -2 would be subtracted.

Interpolation: In many cases, the rules may call for the generation of a random number within a specific range, such as from 10 to 60. In this case, inspection of the highest number will give the number of dice to be rolled and the multiplier to be applied. For instance, if the rules call for 10 to 60 animals to appear, the referee may deduce that one die is to be rolled and the result multiplied by 10.



Characters

Characters are the central focus of **Traveller**; they are the alter-egos of the players, and all activity centers on them. Each character is a person within the game, and has abilities and characteristics which define his or her actions and reactions. The character is the **Traveller** personality; the player is the person engaged in playing the game. A player character is a character manipulated by a player. A non-player character is a character manipulated by the referee in order to allow interaction between the player characters and the universe. Once a player character is generated, he or she continues to live an exciting life of adventure in the **Traveller** universe. This life ends only with death or disability. Non-player characters (NPCs) appear and disappear as the referee needs them.

All characters begin the game the same way: untrained, inexperienced, and about 18 years of age. Each character is generated with a series of die rolls. He or she then embarks on an abstract career in order to gain skills and experience. Ultimately, the character retires or leaves the service, receives mustering-out benefits, and is ready to begin adventuring.

INITIAL CHARACTER GENERATION

Characters are essentially described by six characteristics describing the physical and mental attributes of the individual. These characteristics are generated through a series of six two-dice rolls. Roll two dice for each of the characteristics given on the characteristics table. Record the results on paper.

Values for the six generated characteristics may range initially from 2 to 12 (with 7 the average value). As a result of various modifications, characteristic values may ultimately range from 1 to 15. For player-characters the values of characteristics may not exceed 15; they do not go below 1 except for the results of calamitous injury or aging.

Obviously, it is possible for a player to generate a character with seemingly unsatisfactory values; nevertheless, each player should use the character as it is created. The experience procedures and acquired skills table offer a genuine opportunity to enhance values, given only time and luck. Should a player truly consider the character so poor as to be beyond help, various options in the experience procedures are available to the player to improve characteristics.

The Universal Personality Profile: Characters in **Traveller** are precisely defined using the universal personality profile (the UPP), which expresses the basic characteristics in a specific sequence using hexadecimal (base 16) numbers. In hexadecimal notation, the numbers 0 through 9 are represented by the common arabic numerals; the numbers 10 through 15 are represented by the letters A through F. The highest single-digit number in base 16 notation is 15 (F). Characteristics are listed as a string of six digits, in the order originally rolled: strength, dexterity, endurance, intelligence, education, and social standing.

For example, a character who is totally average in all respects would have a UPP of 777777. If, instead, the individual were highly intelligent, his UPP would be 777B77 (the B in the fourth position indicates an intelligence of 11).

While the use of the UPP is optional, it allows the referee (and the players) to tell at a glance the characteristics of persons they encounter and have dealings with. Because the hexadecimal notation uses single digits or letters for each of

the six characteristics, numbers which are normally two digits cannot become confused and give false readings to the players and referee.

Naming: Once generated, the character should be named. There are several schools of thought on the nature of names. One school holds that the character should carry the name of the player; the referee can then refer to John or Marsha, and everyone knows exactly who's who. This usage is convenient, but tends to lose some of the flavor of the campaign.

Another school of thought calls for the use of pseudonyms or fanciful names (for example: Alexander Lascelles Jamison, or Timothy Fairweather; more extremely, Seeker or Starkiller). As with everything involved in **Traveller**, the actual choice depends only on the players and on their imaginations.

Titles: The social standing characteristic shows relative position within society for the individual. Those with social standing of B+ (11 or greater) are considered to be noble, and may assume their family's hereditary title. Noble titles are commonly used, even if the individual is not engaged in local government. At the discretion of the referee, a world may be generated (see *Worlds*) and the noble may have some ancestral lands or fiefs on it.

CHARACTERISTICS

Strength is both a general evaluation of the character's physical ability and a specific measure of force which may be applied.

Dexterity measures physical co-ordination.

Endurance measures personal determination and stamina.

Intelligence corresponds to IQ.

Education indicates the highest level of schooling attained by the individual.

Social Standing notes the social class and level of society from which the character (and his or her family) comes.

Other Attributes: In the course of character generation, the character will acquire age (in years and in four year terms), rank, money, skills, and possessions.

A knight (social standing B) is entitled to the use of Sir (or Dame) before his or her name. Social standing C entitles the individual to the title Baron or Baroness. In lieu of this title, the individual may use the prefix von or haut or hault (denoting baronial nobility) with his or her name.

The noble ranks table shows the range of noble titles and their corresponding social levels.

ACQUIRING SKILLS AND EXPERTISE

Any newly-generated character may choose one of these six services (Navy, Marines, Army, Scouts, Merchants, and Other), and attempt to enlist. The prior service table gives the service enlistment throw required to enlist. Successfully throwing that number or higher on two dice allows enlistment. Most services allow die modifications if the character has one or two characteristics of a certain level or higher. If both characteristics are present in the required level, the die modification is cumulative.

For example, the enlistment throw for the Navy is 8+; DM of +1 is allowed for intelligence of 8 or greater, and DM of +2 is allowed for education of 9 or greater. Assuming a character Hylan Vincent, 8946A8 (intelligence of 6 and education of 10) attempted to enlist in the Navy, he would be allowed a DM of +2 (for his education). He rolls a 3 on two dice, adds his DM of +2 to get a 5 (he needs 8+), which is insufficient. The Navy has rejected his enlistment.

Only one enlistment attempt is permitted per character. If rejected for enlistment, he must submit to the draft. Enlistment or draft is not allowed after age 18.

The Draft: Should an attempt at enlistment fail, the character must submit to the draft. Each of the six services has a draft number; the draftee rolls one die and enters the service with that draft number. Note that it is possible for a character to be drafted into the very service which had just previously rejected an enlistment.

Draftees are not eligible for commissions during their first term of service; they do become eligible during the second and subsequent terms of service if they reenlist.

Terms of Service: Upon enlistment (or upon being drafted), a character embarks on a term of service lasting four years. This adds four years to the character's age. Each time a character reenlists, it is for an additional four year term of service.

Survival: Each term of service involves some danger; during the term, a character must successfully throw his service's survival number to avoid death in the line of duty. Each service also has DMs which may apply. Failure to successfully achieve the survival throw results in death; a new character must be generated.

—Optional Rule: If the referee or player chooses prior to character generation, then a failure of the survival roll can be converted to injury. The character is not dead; instead he or she is injured, and leaves the service (after recovery) having served only two years of the four year term. The short term is not counted for mustering out benefits.

Commissions and Promotions: Each service has a commission number; in order to be commissioned as an officer, the character must throw the stated number. DMs may apply to the throw. If the commission is achieved, the character receives rank 1 in the service. A character may

attempt to acquire a commission once per term of service until successful, but a draftee may not attempt to acquire a commission in the first term of service.

In the same term of service that a commission is received and in each subsequent term of service, a character may attempt to be promoted. Each service has a promotion number and DMs affecting that promotion throw. If a promotion is achieved, the character advances to the next higher rank in the service. A character is eligible for one promotion per term of service.

Commissions and promotions are not available in the Scout Service or in the Other Service.

Skills and Training: During each term of service, a character has the opportunity to acquire personal skills and expertise. Allowances are made for the acquisition of new skills based on service, duty, commission, and promotion.

Skills are acquired by rolling on the acquired skills table once for each skill allowed, using one die. There are four tables, each containing different general types of skills. One of the tables is chosen before the die is rolled, and the single die roll determines the specific skill acquired.

Of the four acquired skill tables, the first three may always be used by a character. The fourth is available only through advanced education, and may be used only by characters who have an education characteristic of 8 or greater.

During the character's first term of service, he or she becomes eligible for two skills; during each additional term of service, the character becomes eligible for one skill. Upon receiving a commission, he or she becomes eligible for one skill. Upon being promoted, the character becomes eligible for one skill. Thus, a character who joins the Navy, receives a commission, and then receives a promotion during the initial term of service becomes eligible for four skills. The same character, in the next term, is eligible for one skill if he or she does not receive another promotion.

Some skills are automatically acquired by a character (without using eligibility) by virtue of rank or service. These automatic skills are listed on the rank and service skills table. At the point when the character achieves the indicated rank or service, he or she gets the indicated skill.

The scout service is an exception to the normal eligibilities. Because the service has no rank or promotion, scout characters do not become eligible for extra skills during their careers. Instead, however, scouts receive two skills for each term of service, including the first.

Reenlistment: Generally, a character is free to leave the service or to remain for another term, depending on the individual's goals and desires. As always, the possibilities of war, peace, and other considerations loom ever-present over the character's career, and may force others to decide the course of the career. Each service has a reenlistment number; in order to undertake a subsequent term of service, a character must throw that number or greater (no DMs are allowed). If the throw is not successful, reenlistment has been denied, and the person must leave the service. If the throw is 12 (exactly), the needs of the service require that the character serve another term, regardless of his or her personal desires. The reenlistment throw is required during each term of service.

Retirement: A character may serve up to seven terms of service voluntarily, and may leave after any term (provided mandatory reenlistment — a reenlistment throw of 12 exactly — does not occur). A person may retire any time after the end of the fifth term. Retirement grants the individual an annual retirement pay (in addition to any mustering out benefits); rates of retirement pay are shown in the retirement pay table.

Service beyond the seventh term is normally impossible, and retirement is mandatory for an individual who has completed a seventh term of service. However, persons who throw mandatory reenlistment must instead serve that additional term of service. It is theoretically possible for an individual to be required to serve ninth and even tenth terms under mandatory reenlistment.

MUSTERING OUT

When a character leaves the service (for any reason), he or she is eligible for mustering out benefits. The two mustering out tables indicate the nature of these benefits: one provides travel, education, and material benefits, while the other provides cash severance pay. Each table is matrixed by service and a single die roll. When mustering out of the service, a character is allowed to consult these tables based on total terms of service and on final rank.

One benefit roll is allowed for each full term served (if, under the optional survival roll, a character serves only half a term, that term is not counted toward muster-out). Additionally, a character who has received rank 1 or 2 receives one extra roll. A character who has received rank 3 or 4 receives two extra rolls. A character who has received rank 5 or 6 receives three extra rolls, and in addition may apply a DM of +1 to die rolls on the skills and benefits table. Any character who has acquired the skill of gambling-1 or higher may add +1 to the die roll on the cash table.

A character is free to choose between the benefits table and the cash table, but no one may consult the cash table more than three times during the mustering out process.

For example, an uncommissioned character who has served four terms of service is eligible for four mustering out benefits. She may roll a total of four times, distributing the rolls as she desires between the two tables, provided only that she may roll no more than three times on the cash table. The player must designate the table being used before rolling the die.

AGING

Because each term of service is four years in length, a character can potentially age twenty years or more before venturing into the adventure portion of the game. This aging may even have a detrimental effect on a character's strength, dexterity, endurance, and even intelligence.

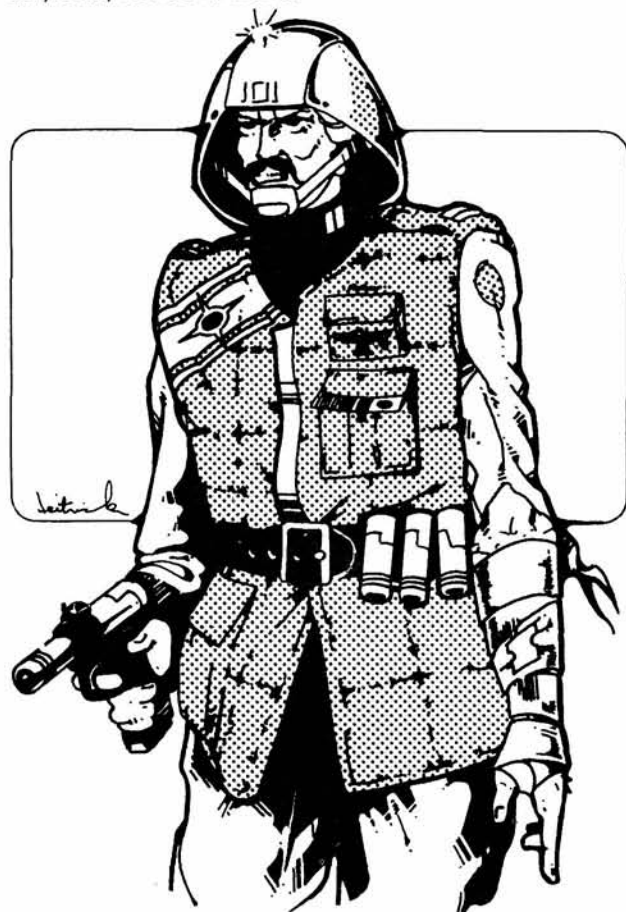
When a character reaches 34 years of age (the end of the fourth term of service) aging begins to take its toll. The aging table must be consulted then, and thereafter at four year intervals. This table shows each of the characteristics affected, and the throws necessary to avoid the effects of aging. If a specific throw is failed, then the reduction indicated is applied to the characteristic.

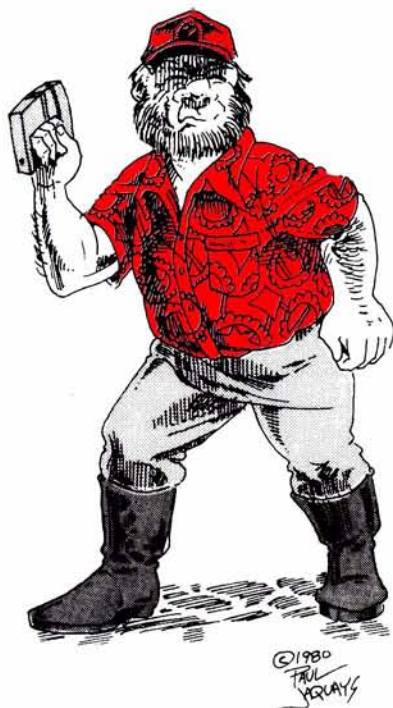
In some situations, the use of drugs (to speed up or slow

down the body chemistry) or low passage (suspended animation for low cost travel) will make the character age faster or slower than a strict game calendar would indicate. It is therefore quite important that each player maintain careful records on his or her character's physical age.

Aging Crisis: If, as a result of aging, a characteristic is reduced to zero, the character is considered to have had an aging crisis and become quite ill. A basic saving throw of 8+ applies to avoid death (subject to a DM for the expertise of any attending medical skill). If the character survives, recovery is made immediately (under slow drug, which speeds up the body chemistry). The character ages (one die equals the number of months in added age under slow drug) immediately, but also returns to play without delay. The characteristic which was reduced to zero automatically becomes 1. This process occurs each time (and for each characteristic) a characteristic is reduced to zero. In the event that slow drug is not available, the individual is incapacitated for the number of months indicated if the basic throw of 8+ is successful.

Disability: Characters may quit adventuring when they reach age 66, if any one physical characteristic (strength, dexterity, or endurance) permanently equals 1, or if the sum of all three physical characteristics equals 10 or less. When a character quits adventuring, he or she leaves the game, taking along all money and possessions. The player is then free to generate a new character. Quitting due to disability is available to allow players to maintain reasonably competent characters.





NON-PLAYER CHARACTERS

Sometimes (often) player characters will encounter people not actually manipulated by a player. They may be thugs or assailants; they may be potential hirelings or patrons. In any case, their skills and abilities should be determined by the referee using the character generation procedure.

For example, a starship captain may be looking for a crew for his ship. The referee would generate characters until one occurs with the required skill (medical, navigation, etc.). Generally, the first appropriate character to be generated would present himself or herself for employment, and if not accepted (or unsuitable) a delay would occur before another becomes available. As an alternative, the referee may simply generate a character and assign the required skill plus a few others for variety. Similarly, the characteristics of thugs and brigands who are menacing player characters, or of people presenting themselves for hire, may be determined and recorded for use when necessary.

Loyalty and Dedication: In most cases, non-player characters will be dependable and loyal (assuming the absence of bad treatment by their employers); the possibility exists, however, that a seemingly loyal non-player character has foul play at heart. The referee should utilize the character reaction table (see Encounters) to determine such potential, and note such possibilities as they exist. Continued loyalty of non-player characters is ultimately dependent on the quality of treatment and level of skill of their employing player characters.

Character Generation: Most players new to *Traveller* spend some time in the generation of various character types. It is recommended that the referee save these characters for future use as non-player characters, hirelings, and other types.

CAREER TYPES

The six career types generated here are general careers assumed to exist in the human societies within the galaxy. For players who are adventuring within the general human Imperium that serves as a background for *Traveller*, these services are commonplace and ordinary. The services shown are also sufficiently general to allow their use in virtually all *Traveller* situations. They can be described as follows:

Navy: Members of the interstellar space navy which patrols the space between the stars. The navy has responsibility for the protection of society from lawless elements in the interstellar trade channels and from foreign powers.

Naval characters will tend to be familiar with the technical aspects of space flight, such as navigation, with such things as advanced electronics and engineering necessary to running their giant starships, and with the less complex aspects of space such as vacc suits.

Marines: Members of the armed fighting forces carried aboard starships. Marines deal with piracy and boarding actions in space, defend the starports and bases belonging to the navy, and supplement other ground forces.

Marine characters will accumulate skills related to their roles in ship-to-ship and surface combat, as well as a smattering of more technical skills such as mechanical and computer.

Army: Members of the planetary armed fighting forces. Soldiers deal with planetary surface actions, battles, and campaigns. They may also serve as mercenaries for hire.

Scouts: Members of the exploratory service. Scouts explore new areas, map and survey known or newly discovered areas, and maintain the communications ships which carry information and messages between the worlds of the galaxy.

Since they are often expected to operate on their own, scout characters receive skills related to all aspects of space flight from pilot to engineering and mechanical.

Merchants: Members of the commercial enterprises. Merchants may crew the ships of the large trading corporations, or they may work for the independent free traders which carry chance cargos and passengers between worlds.

Merchant characters may be constantly on the move, or may remain in one place throughout their term of service. Merchants can engage in every activity from plodding, conventional commerce, through quasi-legal actions, to outright violations of the law such as smuggling. Merchants can accumulate skills relating to space flight, such as pilot and navigation, to trade, such as admin, and to less technical but equally important aspects of life, such as brawling, gambling, and forgery.

Other: Characters who do not serve in one of the above services instead follow careers in a variety of occupations, legal and illegal, collectively called the Other. The Other service covers some trades not mentioned above, and the nether realm of the underworld. Not all characters in the Other are ex-criminals. A character with skills in bribery, forgery, and streetwise could be a former government undercover agent as easily as a counterfeiter. The exact nature of the career of any specific character in the Other service must be deduced from the skills and benefits received during character generation.

SKILLS

The skills which can be acquired during a term of service are of greatly diverse types and values. Skills form an integral part of the player's character, assisting the referee (and the player) in calculating both general abilities and the specific probability of performing certain tasks.

Skills are differentiated by level: skill-3 (meaning level 3 of a specific skill) is higher and more sophisticated than skill-2. There are a finite number of skills listed, and it is possible that one specific skill may be acquired more than once; in such cases, the second acquisition increases the character's expertise in that skill. Upon the first acquisition of a skill, the player writes the skill name, followed by a dash and the number 1 (thus: navigation-1). The second time the skill is acquired, the number is increased to show greater expertise (thus: navigation-2). Additional acquisitions of the same skill will increase this skill level to 3, 4, or even higher.

The acquired skills table provides four basic types of results: characteristic alterations (such as +1 strength), weapons expertise (such as blade combat), transport skills (such as ATV), and basic skills (such as navigation).

Characteristic Alterations: Expressed as an addition to (or subtraction from) a character's ability. In this category, alterations tend to affect strength, dexterity, or endurance (although some services can affect other abilities as well). Characteristic alterations are applied immediately, and require no further attention. An example of a characteristic alteration is +1 dexterity.

Characteristic alterations reflect physical (or other) training while in the service. A result of +1 strength may mean that the service has required a regimen of calisthenics which has improved the individual's strength.

Weapons Expertise: Expressed as a general trait, such as brawling, blade combat, gun combat, or gunnery. When acquired, the character notes the area of expertise, and immediately selects the specific type of skill received. Thus, if gun combat is received, the character must select which type of gun the expertise is in. Gunnery and brawling do not require any selection because they have no subdivisions.

All player characters have an innate weapon expertise, in all weapons on the list, of zero. Acquisition of a weapon skill boosts this to level-1. Additional acquisitions of expertise in the same weapon increase the current level by one.

Brawling: Brawling is a general skill for hand-to-hand combat, and includes hands, clubs, and bottles as weapons.

Blade Combat: Blade combat is a specific skill in the use of blades and polearms. The character may select one blade or polearm each time blade combat is received. The blades and polearms table indicates the weapons available under this skill. Selection of a specific blade or polearm should be a discriminating decision; the table is intended to assist in that decision even for players still unfamiliar with the *Traveller* combat system. Following each listed weapon are three columns. The +DM column indicates the minimum required strength for the character if he or she is to receive strength bonuses for using the weapon in combat. It is advantageous for a character to have skill in a weapon which provides such bonuses. The -DM column shows the level of strength (or less) which calls for mandatory

strength penalties for using the weapon in combat; such penalties are to be avoided. Finally, the wounds column indicates the degree of wounding ability which the weapon has; it indicates relative power of the weapons.

A character may select one weapon each time that blade combat skill is received. In the event that a character receives blade combat three times, he might choose, for example, cutlass-2 (taking cutlass twice) and dagger-1, or decide to concentrate on one weapon, perhaps taking foil-3.

Note that one of the possible weapons is named blade. Players must be careful to designate the weapon or weapons they have selected; otherwise, skill defaults to the edged weapon named blade.

Gun Combat: Gun combat is a specific skill in the use of firearms. The character must immediately choose one firearm from the guns table; a different gun may be selected each time that the skill is received. The table contains columns indicating positive or negative DMs, but the DMs for guns are based on dexterity (not on strength).

Gunnery: Gunnery is a skill in the use of weapons mounted on board spacecraft (beam and pulse lasers, sandcasters, and missile launchers). This skill entitles the individual to the job title of gunner. Space combat is covered in the chapter on space combat.

Transport Skills: Receipt of a transport skill indicates that the character can operate a vehicle within a specific category. Where the category is further subdivided, the individual must select one of the subdivisions.

Basic Skills: Basic skills are expressed as a general ability, such as navigation or engineering. Each skill is further defined on the following pages.

AVAILABLE SKILLS

<i>Basic Skills</i>	<i>Weapons Skills</i>	<i>Transport Skills</i>
Administration	Brawling	Air/Raft
Bribery	Blade Combat	ATV
Computer	Dagger	Ship's Boat
Electronics	Blade	Vehicle
Engineering	Foil	Aircraft
Forgery	Sword	Helicopter
Forward Observer	Cutlass	Propeller
Gambling	Broadsword	Jet
Jack of all Trades	Bayonet	Grav Vehicle
Leader	Spear	Tracked Vehicle
Mechanical	Halberd	Wheeled Vehicle
Medical	Pike	Watercraft
Navigation	Cudgel	Small Craft
Pilot	Gun Combat	Hovercraft
Steward	Body Pistol	Submersible
Streetwise	Automatic Pistol	Large Craft
Tactics	Revolver	
Vacc Suit	Carbine	
	Rifle	
	Automatic Rifle	
	Shotgun	
	Submachine Gun	
	Laser Carbine	
	Laser Rifle	
	Gunnery	

Other skills are possible as described in other books.

Skills described on this page: *Administration, Air/Raft, ATV, Blade Combat, Brawling, Bribery, Computer.*

Administration: The individual has had experience with bureaucratic agencies, and understands the requirements of dealing with them and managing them.

When contact with officials is required, understanding their needs and motives will assist in dealing with them. A basic throw of 7+ will successfully resolve normal interaction without further problems (such as avoidance of police harassment, insuring prompt issuance of licenses, approval of applications, avoidance of close inspection of papers, etc.). Apply these DMs: no expertise, -3; per level of admin expertise, +2.

When serving in a bureaucratic organization, admin expertise allows competency in the eyes of superiors. Apply a DM of +1 per level of expertise, with the exact throw to be determined by the referee under the circumstances.

Referee: Admin expertise should also affect the quality of work and potential for success of an organization which the character is controlling or managing.

Air/Raft: The individual has training and experience in the use and operation of the air/raft, floater, flier, and all types of grav vehicles.

The air/raft is the major transportation vehicle on most worlds with high enough tech levels. Most people are aware of the basics of operation for such vehicles. The air/raft can be dangerous to operate in high speed situations or in bad weather. A basic throw of 5+ to avoid an accident or mishap in bad weather, chases, or high speed maneuvers should be used. Apply these DMs: per level of expertise, +1; if weather is extremely bad, if the craft is old, or if gunfire is involved in the chase, -1. Generally, roll once for a short chase, twice or three times for longer flights.

Referee: Air/raft and grav vehicle are interchangeable and identical skills. The chapter on equipment provides descriptions of various grav vehicles including the air/raft.

ATV: The individual is acquainted with modern all terrain vehicles, and has been trained in, or has experience with, their operation. The term ATV (all terrain vehicle) includes AFV (armored fighting vehicle) and covers both wheeled and tracked vehicles.

The ATV is used, in varying forms, on frontier and airless worlds, or in situations where weather, atmosphere, or players' intent preclude the use of air/rafts or aircraft. ATVs are quite reliable (throw 11+ per day for mechanical breakdowns), but are susceptible to off-road difficulties such as becoming bogged down in mud or sand or trapped by jungle growth. Generally, driver expertise will serve as a DM (+1 per level) to help avoid such difficulty.

Referee: ATV skill will also serve to allow increased speed and greater maneuverability. It allows the individual to diagnose malfunctions within the vehicle, to help repair them, and to perform preventive maintenance on the ATV.

Blade Combat: The individual is skilled in the use of a specific blade or edged weapon. The use of various blade weapon skills by individuals is governed by the chapter on personal combat.

Brawling: The individual is skilled in basic hand-to-hand combat and can engage in simple fighting without weapons or with typical improvised weapons such as clubs. Brawling by individual characters is governed by the chapter on personal combat.

Bribery: The individual has experience in bribing officials in order to circumvent regulations or ignore cumbersome laws. Bribery skill does not guarantee success, but does minimize bad effects if the offer is rebuffed.

Petty officials can generally be bribed to ignore regulations or poor documentation, requiring a throw of the law level of the world in question or less (plus a cash offer) to do as asked. If the first offer is refused, a second roll may be made with the cash offer doubled. The character offering the bribe should first roll on the reaction table (see Encounters) and should not offer to a negatively reacting official. Apply these DMs: no expertise, +5; per level of expertise, -1; if the official reacts as a strong friend on the reaction table (a roll of 12), -2.

Referee: Insure that both the cash offered and the act solicited are reasonable; if not, implement appropriate DMs. Note that the roll for accepting a bribe varies inversely with the law level of a world; the more stringent the laws, the greater the corruption. If a bribe is not accepted, roll 3- for the offer to be reported to higher authorities.

Computer: The individual is skilled in the programming and operation of electronic and fibre optic computers, both ground and shipboard models.

Computers perform valuable functions in human society, and individuals capable of using them find that their skill is equally valuable. Characters with computer expertise may be hired (when needed) to operate and program computers for organizations, ships, or other employers.

Computer programs (especially starship programs as required for starship operation) are widely available, although for relatively high prices. It is also possible that such programs may be written by characters with computer skill. The individual must have access to a computer which will handle the intended program, knowledge of the skill being incorporated, and no other duties, responsibilities, or distractions during each week of work. For more details, see Computers.

Referee: In spite of all good intentions, there is always the possibility that any program written will have a fatal flaw and will not function when actually put to use in a critical situation. Throw 7 exactly for a fatal error to be written in. If there is none, throw 5- for a negative DM to appear on the program when used; there is a half chance that the DM will be -1 or -2. These flaws will generally remain hidden until the program is actually used; the referee simply institutes any failure or DM without comment. Debugging a program that does not seem to function well may find the flaw, or impose other flaws.

When characters want to write computer programs, the general procedure shown in Computers should be used, with appropriate modifications for the specific purpose.

Skills described on this page: *Electronics, Engineering, Forgery, Forward Observer, Gambling.*

Electronics: The individual has skill in the use, operation, and repair of electronic devices. The person is considered handy in this field, with the equivalent of a green thumb; this skill includes the repair of energy weapons.

An advanced technological civilization depends heavily on the use of electronic devices. The need to use, repair, and replace electronic devices is ubiquitous.

Electronic expertise allows a character to use and operate electronic items; generally the skill is a DM applied to the throw to understand, repair, assemble, or operate. Complex items would also require a certain level of education or a very high intelligence; many devices may also require some degree of dexterity to disassemble, repair, and reassemble.

Referee: Specific throws for specific situations must be generated. Obviously, some throws will be harder than others, and many will be impossible without an accumulation of DMs based on expertise, education, dexterity, intelligence, and the availability of parts and tools. To generate a specific throw, the referee analyzes the specific circumstances and selects a number to be thrown (usually throw that number or greater to succeed). DMs allowed should be the level of electronics skill, +1 for intelligence above some level (say, 10), +1 for education above some level (say, 9), and appropriate values for lack of tools (perhaps -5) or poor conditions (maybe -3). The throw is then made, and success is determined by the result. Such throws are restricted to one per specific time period, an hour, four hours, a day, or a week, as appropriate.

Engineering: The individual is skilled in the operation and maintenance of starship maneuver drives, jump drives, and power plants.

Engineering experience enables an individual to operate the vital drives of starships (and interplanetary craft) and to maintain the machinery against failure.

The engineer is essential for the proper operation of any starships. Expertise qualifies the individual for such jobs, and can be used to get working passage on a ship in need of help. Greater levels of expertise enable the individual to handle problems of greater complexity and jobs with higher levels of responsibility.

Referee: Skill level is generally a DM applied to the throw to remedy an engineering problem. In order to handle the relative value of experience, the DM may be assigned on the basis of +2 per level of expertise.

Forgery: The individual has a skill at faking documents and papers with a view to deceiving officials, banks, patrons, or other persons.

Documents necessary for cargo transfers, bank transactions, personal identification, and many other purposes are often closely inspected by officials such as the police, customs agents, or clerks when encounters occur (such encounters happen when the law level for a world or less is thrown; generally once or twice per day). The throw for detection of forged or fake documents is 6+; DMs to be applied: -2 per level of expertise.

Referee: Forgery is a useful skill, but control is required to prevent blatant misuse (to provide a bottomless checking account, for example). Note that administration and bribery may also be used to determine whether documents are actually examined by the individuals involved.

Forward Observer: The individual has been trained (in military service) to call on and adjust artillery (projectile, missile, and laser) fire from distant batteries and from ships in orbit.

Modern fire support can be a tremendously effective weapon, when available, but is virtually useless unless the technique of its application and adjustment is known. If artillery of any form (including communication with the firing battery) is available, the first shots fired will invariably miss the target. On each subsequent turn in which such fire is delivered, a basic throw of 11+ to hit is required. Apply these DMs: +4 per level of expertise; per adjustment (two minutes per adjustment), +1; if adjusting person has no expertise: -4.

Gambling: The individual is well informed on games of chance, and wise in their play. He or she has an advantage over nonexperts, and is generally capable of winning when engaged in such games. Gambling, however, should not be confused with general risk-taking.

Organized games (as in casinos) allow bets of up to Cr5000, and require a throw of 9+ to win. Private games allow bets ranging from Cr50 to Cr5000, and require a throw of 8+ to win. Gambling skill allows a DM of +1 per level, but the house always wins on a throw of 2 exactly.

Games may be crooked (throw 10+ to be dishonest) in which case the referee will stack the odds against the players. Gambling-3 or better will usually detect crooked games (throw 7+ to detect).

Gambling-4 or better may be suspected of cheating and the gambler ejected (or worse) due to the finesse of the skill involved (throw 9+ to be suspected; DM -1 per level over 4). Characters may elect to use a lower expertise level in order to avoid detection of true skill level.

Referee: Characters' die rolls should not be divulged when gambling; instead, merely inform the individuals of wins and losses. This procedure should serve to conceal any manipulation of dice throws.



CHARACTER GENERATION CHECKLIST

1. Roll personal characteristics (2D each): strength, dexterity, endurance, intelligence, education, and social standing.
2. Select service and roll for enlistment using all applicable DMs.
 - A. If rejected, try draft.
 - B. Roll for survival.
 - C. Attempt rank.
 - 1) If no rank, attempt commission.
 - 2) If commissioned, attempt promotion.
 - D. Determine skills allowed.
 - 1) Automatic skills.
 - 2) Acquired skills.
 - 3) Specify cascade skills.
 - E. If completing fourth or later term of service, determine aging effects.
 - F. Roll for reenlistment and return to 2B if successful.
3. Muster-Out.
 - A. Determine benefits.
 - B. Record characteristics and skills for later use.

BASIC SKILL ELIGIBILITY

For initial term of service2
 Per subsequent term of service . . .1
 Upon receiving commission1
 Upon receiving promotion1
Note: Scouts receive two skills per term of service.

MUSTER-OUT BENEFITS

Per term of service1
 If rank 1 or 21
 If rank 3 or 42
 If rank 5 or 63

Allowable DMs

Benefits Table: DM+1 if rank 5 or 6.
Cash Table: DM+1 if gambling skill.

HEXADECIMAL NOTATION

Base-10	Base-16	Base-10	Base-16
0	0	8	8
1	1	9	9
2	2	10	A
3	3	11	B
4	4	12	C
5	5	13	D
6	6	14	E
7	7	15	F

Use hexadecimal (base-16) numbers to note the six characteristics of the universal personality profile.

PRIOR SERVICE TABLE

	<i>Navy</i>	<i>Marines</i>	<i>Army</i>	<i>Scouts</i>	<i>Merchants</i>	<i>Other</i>
Enlistment	8+	9+	5+	7+	7+	3+
DM of +1 if	Intel 8+	Intel 8+	Dext 6+	Intel 6+	Stren 7+	—
DM of +2 if	Educ 9+	Stren 8+	Endur 5+	Stren 8+	Intel 6+	—
Draft	1	2	3	4	5	6
Survival	5+	6+	5+	7+	5+	5+
DM of +2 if	Intel 7+	Endur 8+	Educ 6+	Endur 9+	Intel 7+	Intel 9+
Commission	10+	9+	5+	—	4+	—
DM of +1 if	Social 9+	Educ 7+	Endur 7+	—	Intel 6+	—
Promotion	8+	9+	6+	—	10+	—
DM of +1 if	Educ 8+	Social 8+	Educ 7+	—	Intel 9+	—
Reenlist	6+	6+	7+	3+	4+	5+

Characters cycle through this table during each term of service. The reenlistment die throw is required even if the character does not intend to reenlist (a roll of 12 exactly calls for mandatory reenlistment).

DMs are cumulative (in the case of enlistment) if the characters have the necessary prerequisites. All rolls except draft are two-die throws.

TABLE OF RANKS

	<i>Navy</i>	<i>Marines</i>	<i>Army</i>	<i>Scouts</i>	<i>Merchants</i>	<i>Other</i>
Rank 1	Ensign	Lieutenant	Lieutenant	—	4th Officer	—
Rank 2	Lieutenant	Captain	Captain	—	3rd Officer	—
Rank 3	Lt Cmdr	Force Cmdr	Major	—	2nd Officer	—
Rank 4	Commander	Lt Colonel	Lt Colonel	—	1st Officer	—
Rank 5	Captain	Colonel	Colonel	—	Captain	—
Rank 6	Admiral	Brigadier	General	—	—	—

This table indicates initial rank (rank 1) if a commission is received, and subsequent ranks (ranks 2 to 6) as promotions are received. The other and the scout services do not have ranks, commissions, and promotions.

MUSTERING OUT TABLES

<i>Die Roll</i>	<i>Benefits Table</i>					
1	Low Psg	Low Psg	Low Psg	Low Psg	Low Psg	Low Psg
2	+1 Intel	+2 Intel	+1 Intel	+2 Intel	+1 Intel	+1 Intel
3	+2 Educ	+1 Educ	+2 Educ	+2 Educ	+1 Educ	+1 Educ
4	Blade	Blade	Gun	Blade	Gun	Gun
5	Travellers'	Travellers'	High Psg	Gun	Blade	High Psg
6	High Psg	High Psg	Mid Psg	Scout Ship	Low Psg	—
7	+2 Social	+2 Social	+1 Social	—	Free Trader	—

Characters with rank 5 or 6 may add +1 to their rolls on this table. Gun and blade benefits must be declared by type immediately; additional benefits of gun or blade may be declared as skill in a weapon of the type previously taken.

<i>Die Roll</i>	<i>Cash Table (in credits)</i>					
1	1000	2000	2000	20000	1000	1000
2	5000	5000	5000	20000	5000	5000
3	5000	5000	10000	30000	10000	10000
4	10000	10000	10000	30000	20000	10000
5	20000	20000	10000	50000	20000	10000
6	50000	30000	20000	50000	40000	50000
7	50000	40000	30000	50000	40000	100000

Amounts shown are in credits (Cr). No more than three rolls may be made on this table. Individuals with gambling skill receive a DM of +1 on the cash table.

ACQUIRED SKILLS TABLES

1. Personal Development Table

	<i>Navy</i>	<i>Marines</i>	<i>Army</i>	<i>Scouts</i>	<i>Merchant</i>	<i>Other</i>
1 +1 Stren	+1 Stren	+1 Stren	+1 Stren	+1 Stren	+1 Stren	+1 Stren
2 +1 Dext	+1 Dext	+1 Dext	+1 Dext	+1 Dext	+1 Dext	+1 Dext
3 +1 Endur	+1 Endur	+1 Endur	+1 Endur	+1 Endur	+1 Endur	+1 Endur
4 +1 Intel	Gambling	Gambling	+1 Intel	+1 Stren	Blade Cbt	
5 +1 Educ	Brawling	+1 Educ	+1 Educ	Blade Cbt	Brawling	
6 +1 Social	Blade Cbt	Brawling	Gun Cbt	Bribery	-1 Social	

2. Service Skills Table

	<i>Navy</i>	<i>Marines</i>	<i>Army</i>	<i>Scouts</i>	<i>Merchant</i>	<i>Other</i>
1 Ship's Boat	ATV	ATV	Air/Raft	Vehicle	Vehicle	
2 Vacc Suit	Vacc Suit	Vacc Suit	Mechanical	Jack-o-T	Brawling	
3 Fwd Obsvr	Gun Cbt	Fwd Obsvr	Navigation	Steward	Bribery	
4 Gunnery	Blade Cbt	Blade Cbt	Electronics	Electronics	Blade Cbt	
5 Blade Cbt	Gun Cbt	Gun Cbt	Jack-o-T	Gun Cbt	Gun Cbt	

3. Advanced Education Table

	<i>Navy</i>	<i>Marines</i>	<i>Army</i>	<i>Scouts</i>	<i>Merchant</i>	<i>Other</i>
1 Vacc Suit	Vehicle	Vehicle	Vehicle	Streetwise	Streetwise	
2 Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	
3 Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	
4 Engineering	Tactics	Tactics	Jack-o-T	Navigation	Gambling	
5 Gunnery	Blade Cbt	Blade Cbt	Gunnery	Gunnery	Brawling	
6 Jack-o-T	Gun Cbt	Gun Cbt	Medical	Medical	Forgery	

4. Advanced Education Table (allowed only for characters with education 8+)

	<i>Navy</i>	<i>Marines</i>	<i>Army</i>	<i>Scouts</i>	<i>Merchant</i>	<i>Other</i>
1 Medical	Medical	Medical	Medical	Medical	Medical	
2 Navigation	Tactics	Tactics	Navigation	Navigation	Forgery	
3 Engineering	Tactics	Tactics	Engineering	Engineering	Electronics	
4 Computer	Computer	Computer	Computer	Computer	Computer	
5 Pilot	Leader	Leader	Pilot	Pilot	Streetwise	
6 Admin	Admin	Admin	Jack-o-T	Admin	Jack-o-T	

AGING TABLE

Term of Service	4	5	6	7	8	9	10	11	12	13	14+
Age	34	38	42	46	50	54	58	62	66	70	74+
Strength	...	-1 (8+)	...	...	-1 (9+)	...	...	-2 (9+)	...	...	...
Dexterity	...	-1 (7+)	...	...	-1 (8+)	...	...	-2 (9+)	...	...	...
Endurance	...	-1 (8+)	...	...	-1 (9+)	...	...	-2 (9+)	...	...	...
Intelligence	no effect before age 66	...	...	...	...	-1 (9+)	...	...	...
Education	unaffected by aging	...	...	...	...	...	...	...
Social Standing	unaffected by aging	...	...	...	...	...	...	...

The negative number is the potential reduction in characteristic if the saving throw (on two dice; throw shown in parentheses) is not made. Term of service refers to the end of that numbered term; age refers to the first day of the personal (physical, not chronological) year.

NOBLE RANKS

B 11	Knight, Knightess, Dame
C 12	Baron, Baronet, Baroness
D 13	Marquis, Marquesa, Marchioness
E 14	Count, Countess, Contessa
F 15	Duke, Duchess
	Knights are addressed as <i>Sir</i> .
	Barons are allowed the prefix <i>von</i> , <i>haut</i> , or <i>hault</i> .

RETIREMENT PAY

Characters who have served at least five terms receive an annual pension.	
5 terms	Cr 4,000
6 terms	Cr 6,000
7 terms	Cr 8,000
8 terms	Cr10,000
9 terms	Cr12,000
per additional term	Cr 2,000

RANK AND SERVICE SKILLS

Navy Captain	...	+1 Social
Navy Admiral	...	+1 Social
Marine	...	Cutlass-1
Marine Lieutenant	...	Revolver-1
Army	...	Rifle-1
Army Lieutenant	...	SMG-1
Merchant First Officer	...	Pilot-1
Scout	...	Pilot-1

BLADES AND POLEARMS

Weapon	+DM	-DM	Wounds
Dagger	8+	3-	2D
Blade	9+	4-	2D
Foil	10+	4-	1D
Sword	10+	5-	2D
Cutlass	11+	6-	3D
Broadsword	12+	7-	4D
Bayonet	9+	4-	3D
Spear	9+	4-	2D
Halberd	10+	5-	3D
Pike	10+	6-	3D
Cudgel	8+	4-	2D

GUNS

Weapon	+DM	-DM	Wounds
Body Pistol	11+	7-	2D
Auto Pistol	10+	6-	3D
Revolver	9+	6-	3D
Carbine	9+	4-	3D
Rifle	8+	5-	3D
Auto Rifle	10+	6-	3D
Shotgun	9+	3-	4D
SMG	9+	5-	3D
Laser Carbine	10+	5-	4D
Laser Rifle	11+	6-	5D

CASCADE SKILLS

Aircraft: Character must immediately select from Prop-driven Fixed Wing, Jet-driven Fixed Wing, or Helicopter.

Blade Combat: Character must immediately select a blade or polearm from the blades and polearms list above.

Gun Combat: Character must immediately select a gun from the guns list above.

Vehicle: Character must immediately select a vehicle type from Aircraft,* Grav Vehicle, Tracked Vehicle, Watercraft,* or Wheeled Vehicle. *Aircraft and Watercraft each require further selection by the character.

Watercraft: Character must immediately select from Large Watercraft, Small Watercraft, Hovercraft, or Submersible.

Skills described on this page: *Gun Combat, Gunnery, Jack of all Trades, Leader, Mechanical, Medical.*

Gun Combat: The individual is skilled in the use of a specific gun weapon. The use of various gun weapon skills is covered in the chapter on personal combat.

Gunnery: The individual is skilled in the operation of gunnery mounted on board starships and spacecraft. The use of such weaponry is covered in the chapter on space combat.

Defensive and offensive weapons are mounted on a variety of interplanetary and interstellar vessels. Gunnery skill qualifies an individual to operate such weaponry, and to be hired on a ship's crew with the title of gunner. Gunnery may also be used for similar weapons mounted on ATVs or air/rafts.

Jack of All Trades: The individual is proven capable of handling a wide variety of situations, and is resourceful in finding solutions and remedies.

The well-rounded individual (the renaissance man, so to speak) is uncommon in all societies, but is naturally proficient when he or she occurs.

This skill is a general ability which may be applied to nearly any endeavor at the discretion of the referee. The jack of all trades can attempt activity which is not normally possible due to the absence of skills or expertise. Unskilled people have no idea how to even start many projects; jack of all trades can apply this skill to such a project as if he or she has the skill. Jack of all trades can be considered to confer skill level-0 in every other skill (but never level-1).

For example, one of a group of adventurers arrives at an aging crisis while on an expedition into the wilds of an unsettled planet. No one has medical expertise. Jack of all trades can be applied as a substitute for medical skill in this situation; the referee should assume that the person has studied independently at some time or has seen such a crisis previously and knows something of what to do. When using jack of all trades skill, the referee should also consider appropriate personal characteristics (intelligence, education), availability of equipment (drugs, medical instruments), and other factors (weather, shelter, or the specific situation).



Leader: The individual has led troops in battle (or on adventures) and is possessed of a knowledge and self-assurance which will make for a capable emergent or appointed leader.

Leadership is a required ability to control a group of more than six non-player hirelings or soldiers. Such a group will tend to obey the general orders of the character with the highest leader expertise. Reaction throws are necessary when the leader and the group first meet. DMs may be applied: +1 per level of leader expertise when consulting the reaction table.

Leader-3 or better is sufficient to allow soldiers to obey orders without hesitation.

Leader-4 or better will allow a positive DM when recruiting soldiers or hirelings for adventures. The throws and DMs for such hirelings depend on the situation imposed by the referee.

Mechanical: The individual has skill in the use, operation, and repair of mechanical devices. The person is considered to be handy in this field, with a talent similar to that of a green thumb. This skill specifically excludes the field of engineering; it does include nonenergy weapon repair.

Many of the devices of civilization are strictly mechanical in nature, and the need to repair, replace, or simply use them pervades life. Mechanical expertise allows a character the ability to operate mechanical devices easily, as well as to repair them quickly and efficiently. Any situation requiring a knowledge of mechanical aspects of devices or equipment can be affected by mechanical skill. In this regard, mechanical skill can be used to allow an understanding of a situation, if it is mechanical in nature.

Referee: Specific throws for specific situations must be generated. Obviously, the throw to fabricate a new main drive bearing as a starship plunges into a flaming sun would be harder than the throw to repair a broken air lock hatch while in port. Success in any mechanical enterprise is also affected by such variables as tool availability, personal strength and dexterity, education, and situation.

Medical: The individual has training and skill in the medical arts and sciences.

Medical science is capable of great feats in preserving and maintaining the health and welfare of individuals. The services of medically trained individuals are in great demand. The levels of medical skill represent steps in increasingly better ability and knowledge.

Medical-1 is sufficient to qualify a character for the position of medic on a starship crew. An expertise of medic-2 or better allows a DM of +1 when reviving low passengers (each normally throws 5+ to revive after a trip; otherwise the passenger dies).

Medical-3 is sufficient for a character to be called doctor, and assumes a license to practice medicine, including writing prescriptions, handling most ailments, and dealing with other doctors on a professional level. A dexterity of 8+ is required for a doctor to also be a surgeon.

Skills described on this page: *Medical, Navigation, Pilot, Ship's Boat, Steward.*

Xeno-Medicine: Normally, medical expertise is considered to apply to humans, and to a limited extent to the animals which live on human worlds. Anyone with medical expertise can apply that expertise (with a reduction of -2) to non-human aliens. For example, a human doctor (medical-3) may find herself in a situation which calls for treatment of an alien, with anatomy and physiology unfamiliar to her. She could provide treatment with the equivalent of medical-1. Obvious encumbrances such as strange environment or unfamiliar chemistry should also be considered by the referee.

Navigation: The individual has training and expertise in the art and science of interplanetary and interstellar navigation.

Travel between worlds depends on the starships and their crews; the navigator is relied upon to plot the course and to insure that correct information is made available to the pilot and crew as they need it. The navigator interprets the long-range data provided by the ship's scanners and detectors.

Navigation expertise qualifies a character for the job position of navigator on a starship or interplanetary vessel.

Referee: In general, navigation skill allows a character to perform in a starship crew position which requires this type of skill. On exploratory missions, or when venturing into unexplored territory, navigation skill may be used to assist in the speedy computation of courses, in the accurate determination of courses, and in the determination of position when lost or strayed.

Navigation expertise can assist an individual in land or sea navigation as well. In any situation where directions need to be known or location must be determined, navigation expertise can be used as a DM of +1 per level on a throw to determine the needed information. The only requirement is that the night sky must be visible from the planetary surface.

Pilot: The individual has training and experience in the operation of starships and large interplanetary ships. This skill encompasses both the interplanetary and the interstellar aspects of large ship operation.

Interstellar travel depends on starships and their crews; the single most important crew position is that of the pilot, responsible for control of the starship's lift-offs, landings, and routine flight. Pilot skill qualifies a character for the job of pilot on a starship over 100 tons.

Referee: Pilot skill is usable as a DM in handling of starships as they travel. Pilot skill generally refers to interstellar ships; much of the ordinary operation, however, is similar to that of interplanetary craft and pilot expertise also applies to large interplanetary craft (100 tons and up). Small interplanetary craft (under 100 tons) handle somewhat differently; pilot expertise minus 1 may be used as ship's boat expertise as applied to interplanetary vessels under 100 tons; thus, an individual with pilot-3 could also operate a small craft interplanetary vessel as if he or she had a skill of ship's boat-2. The reverse is not true.

Ship's Boat: The individual is familiar with the function and operation of small interplanetary craft collectively known as ship's boats. These craft range in size from five to 100 tons, and include shuttles, lifeboats, launches, ship's boats, and fighters.

The small interplanetary craft carried as auxiliaries or boats on larger ships, or serving the needs of bases and stations, are distinctly different from the large vessels which ply the space lanes. Ship's boat expertise reflects a distinct experience and training in the operation of these craft. Pilot expertise minus 1 can be used as the equivalent level of ship's boat expertise.

Referee: Ship's boat skill is used as a DM in handling throws to determine various operations and their results. The following examples should illustrate this concept. Assume a hostile attack on a pinnacle (small craft) flown by a character with ship's boat-2. Throw 10+ for the pinnacle to escape on contact and avoid the attack; DM -2 based on the skill. Throw 8+ to avoid being hit by enemy fire if the escape attempt fails; DM -2, again based on the skill. Alternate these throws until either escape succeeds or the craft is hit. If the pinnacle is hit, throw 5+ for it to be crippled and boarded; 4- for the craft to be destroyed; no DMs apply to this throw for damage type.

Similarly, assuming bad weather (storms, wind, etc.) at a planetary surface landing point, throw 9+ to land safely; +2 per level of expertise above 1.



Steward: The individual is experienced and capable in the care and feeding of passengers: the duties of the ship's steward.

The responsibility for the welfare of passengers aboard a starship falls on the ship's steward. Although anyone can be hired as a ship's steward, this skill represents training in the various duties necessary, and serves as an advantage when attempting to get such a job.

Referee: Steward skill represents a general awareness of cooking, personal care and attention, and other areas of experience which will make passengers and crew happy and content with their conditions of passage.

Skills described on this page: *Streetwise*, *Tactics*, *Vacc Suit*, *Vehicle*.

Streetwise: The individual is acquainted with the ways of local subcultures (which tend to be the same everywhere in human society), and thus is capable of dealing with strangers without alienating them. This skill is not the same as alien contact experience.

Close-knit subcultures (such as some portions of the lower classes, trade groups such as workers, and the underworld) generally reject contact with strangers or unknown elements. Streetwise expertise allows contact for the purposes of obtaining information, hiring persons, purchasing or selling contraband or stolen goods, and other shady or borderline activities.

Referee: After establishing throws for various activities desired by the characters (such as the name of an official willing to issue licenses without hassle: 5+; the location of high quality guns at low prices: 9+), allow streetwise as a DM. If streetwise is not used, impose a DM of -5.

Tactics: The individual has training and experience in small unit tactics (up to and including units of 1000 troops or individual spaceships). This skill is not to be confused with strategy, which deals with the reasons for the encounter and the intended results of the encounter; strategy is the realm of the players, rather than the characters.

When small units encounter hostile forces (in battle, or while adventuring), tactical skill provides an advantage toward winning, or at least reducing the disaster of defeat.

Referee: Because tactical skill is an intangible, the exact results in battle are left to the referee to implement as necessary or prudent. It might influence the type and amount of information available to the character in the miniature figure resolution of a battle which uses hidden movement, or can be a DM in crucial situations.

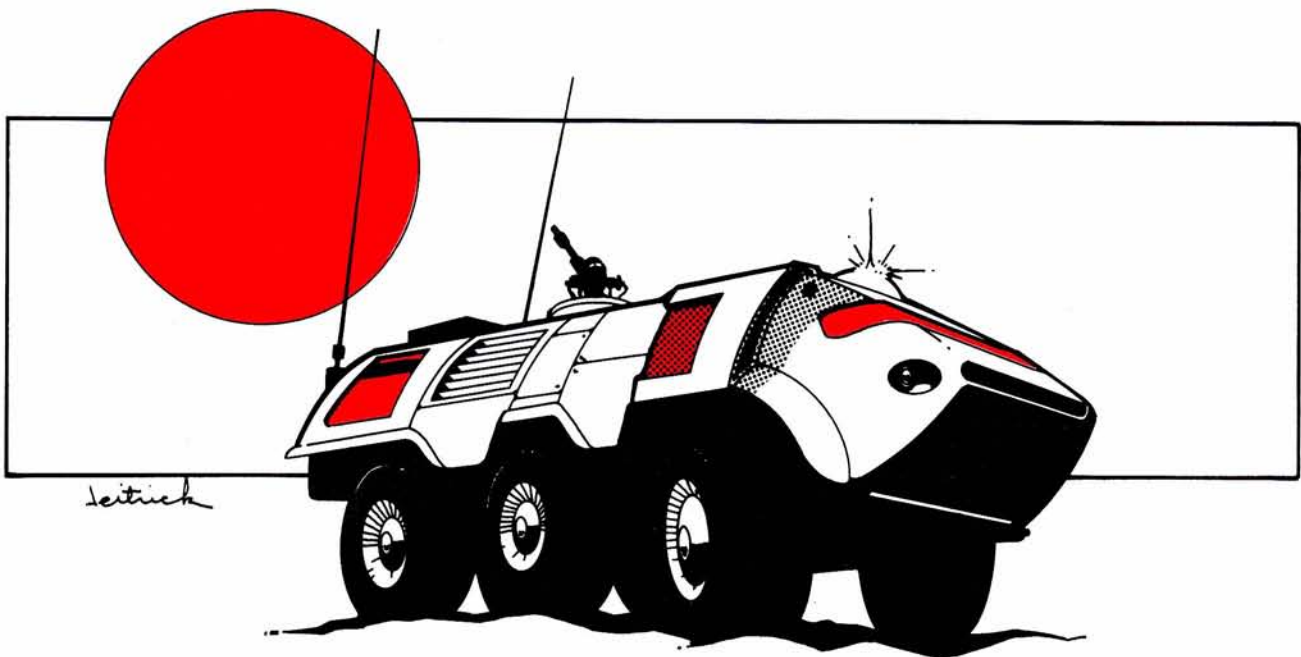
Tactical skill should be considered by the referee when the character is applying for military-type employment.

Vacc Suit: The individual has been trained and has experience in the use of the standard vacuum suit (space suit), including armored battle dress and suits for use on various planetary surfaces in the presence of exotic, corrosive, or insidious atmospheres.

Non-breathable atmospheres or hostile environments can be easily overcome by use of protective equipment, but the danger of minor mishaps becoming fatal remains great. A basic throw of 10+ to avoid a dangerous situation applies whenever any non-ordinary maneuver is attempted while wearing a vacc suit (including running, jumping, hiding, jumping untethered from one ship to another, or other such activity). Allow a DM of +4 per level of expertise. When such an incident occurs, it may be remedied by any character with vacc suit skill (including the character in danger) on a throw of 7+; DMs: per level of expertise, +2; if no expertise, -4. Battle dress and combat armor are special forms of armored vacc suit and require at least vacc suit-1 to wear at all.

Vehicle: The individual is skilled in the operation, use, and maintenance of a specific type vehicle commonly available in society.

The character immediately selects one vehicle from one of the following groups and gains one level of skill in that specific type. The groups available are: Aircraft (select Helicopter, Propeller-driven Fixed Wing, or Jet-driven Fixed Wing), Grav Vehicle, Tracked Vehicle, Wheeled Vehicle, and Watercraft (select Small Watercraft, Large Watercraft, Hovercraft, or Submersible). In the case of Aircraft and Watercraft, other similar vehicles within the group may be operated by the individual at skill level minus 1. Vehicle skill is used by characters for operation and as a DM against accident, and may also be used for assistance in repairing and maintaining a vehicle.



OTHER SKILLS

The above list of skills is certainly not exhaustive. Additional skills may be encountered in other areas of **Traveller**, especially for additional weapons or career types.

Creating New Skills: The chapter on experience indicates methods by which an individual can learn additional skills after he or she begins actively adventuring. Those rules also cover the requirements for creating a new skill not otherwise detailed in the **Traveller** rules. For example, if a new weapon is developed (perhaps a laser pistol), a new skill would be required to enable its use.

Default Skills: Often, some characters will have no skills appropriate to a given situation. A journey across a vacuum plain may be called for, and no one has vacc suit skill. In such cases, the referee may indicate that all individuals not otherwise skilled have vacc suit-0. A level of 0 for a skill indicates that the individual can undertake ordinary activities, but is not experienced enough to try dangerous activities or fancy actions. Level-0 indicates an orientation to the skill by an experienced person; it should not be taken as a stepping stone to level-1. Skills appropriate for level-0 are: air/raft, ATV, forward observer, steward, vacc suit, and weapons.

Maximum Skills: As a general rule of thumb, a character may have no more skills (or total of levels of skills) than the sum of his or her intelligence and education. For example, a character with UPP 77894A would be restricted to a total of 13 combined skills and levels of skills. This restriction does not apply to level-0 skills.

MUSTERING OUT BENEFITS

In addition to the skills acquired while actually in service, the following skills and substantial rewards can be acquired through the mustering out procedures.

Retirement Pay: Any character who leaves the service at the end of the fifth or later term of service is considered to have retired, and receives retirement pay. This pension is paid at the beginning of each year, effective upon leaving the service, and may be collected at any class A or B starport. The table indicates the rate of pay, which is dependent on the character's total terms of service. Service beyond the eighth term adds Cr2000 per additional term. Retirement pay is not available to characters who have served in the scout or the other service.

Travel Allowances: The mustering out procedure makes a variety of benefits available which may generally be called travel allowances. Such allowances take three basic forms: money, passages, and Travellers' Aid.

Money: The cash table indicates specific amounts of money which become available. Some portion of the money should be considered severance pay or life's savings, the remainder is a travel allowance.

Passages: The skills and benefits table includes passages, or tickets, for travel. They are acquired in blank, and represent one passage, or trip, between one world and the next world visited by the starship. They are available in three forms: high passage, middle passage, and low passage. Passages may be retained and used as needed, or they may be cashed in at 90% of their face value.

—*High Passage* includes first class accommodations and

excellent cuisine, and allows up to one ton of baggage. High passage costs Cr10,000 when purchased.

—*Middle Passage* includes second class accommodations (although still of reasonably good quality) and passable food and drink, and allows up to 100 kilograms of baggage. The passenger is expected to tend to his or her own affairs (maid service, laundry, cleaning, etc.) during the voyage. Middle passage costs Cr8000 when purchased, and is subject to stand-by conditions; the ticket holder may be bumped if a high passenger appears (the middle passage ticket being returned in such cases).

—*Low Passage* involves travel in cryogenic capsules (cold sleep, or suspended animation), and the traveller is unconscious for the course of the journey. A character does not age while in cold sleep. Because of the intrinsic dangers of this method of travel, a basic throw of 5+ applies when the journey is over and the low passenger is revived. Failure of the throw results in death; a DM of +1 is allowed if there is an attending medic-2 or better, DM -1 if the low passenger has endurance of 6 or less. Low passage costs Cr1000 if purchased, and includes a baggage allowance of 10 kilograms.

Travellers' Aid: The Travellers' Aid Society is a private organization which maintains hostels and facilities at all class A and B starports in human space. Such facilities are available (at reasonable cost) to members and their guests.

Travellers' Aid Society membership may be acquired upon mustering out while using the benefits table. Once this benefit is achieved, further receipt of the benefit has no effect; membership may be achieved only once per character. Receipt of membership in the Travellers' Aid Society upon mustering out may be construed as a reward for heroism or extraordinary service to the Society, rather than an official benefit of the service.

Membership in the Society may also be purchased. Such purchase involves avoidance of a "blackball" (throw 4+ to avoid), and (if accepted) payment of an initiation fee of Cr1,000,000. Only one application per person is allowed. Membership is for the life of a character, and is not transferrable. The Travellers' Aid Society invests its membership fees and other income; it uses its capital and return to provide benefits to its members. Every two months, it pays dividends in the form of one high passage to each member. This passage may be used, retained, or sold.

Material Objects: The mustering out procedure makes two types of material objects available: weapons and starships.

Weapons: The benefits table indicates as results blade or gun; in such cases, a character may choose any weapon in the category. If, while mustering out, the same benefit is received again, the character has the option of taking another example of the same weapon, selecting a different weapon, or taking the benefit as +1 in skill in the weapon previously received. For example, the benefit blade entitles the character to select any blade weapon, and he chooses cutlass. On the next benefit roll, he again receives blade as a benefit. At this point, he could select a different blade (perhaps foil), choose cutlass again (giving him two cutlasses), or elect to take expertise in the weapon he has already received (giving an expertise of cutlass-1). Expertise

Characters

may only be taken in a weapon received as a benefit.

Starships: Two types of starships are available as mustering out benefits: type S scout/couriers and type A free traders. Each is more fully explained in Starship Design and Construction.

The type A free trader is a 200-ton cargo vessel equipped to handle both freight and passengers. Receipt of this ship as a benefit confers possession of the ship, but also liability for the monthly payments (about Cr150,000) for the next forty years. Fuel, crew, and other expenses must also be handled by the character. If the ship benefit is received more than once, each additional receipt is considered to represent actual possession of the ship for a ten-year period. The ship is thus ten years older, and the total payment term is reduced by ten years. It is possible for a character to own a ship, free and clear, by successively rolling the ship benefit five times (once to obtain it, and four times to pay off the four 10-year sequences of payment). The ship is also forty years old.

The type S scout/courier is a 100-ton dispatch vessel of a type very common within human space. It is the policy of the scout service to make available such surplus scout ships to selected individuals on a reserve basis. The vessels are (hopefully) put to good use while they are not required in service, and both the ship and its pilot are available for recall to duty when needed. Only one scout ship may be acquired by a character; further receipt of this benefit results in no further effect. Possession of the scout ship is at the pleasure of the scout service, and it cannot be sold or mortgaged by the character. The ship may be used for travel, limited commerce, or pleasure. Fuel is free at scout bases. Maintenance is free at the scout bases at class B starports. The character is responsible for all other costs (berthing, upkeep, and crew costs) as the ship is used.

Characteristic Alterations: Finally, the skills and benefits tables makes provision for some characteristic alterations. These tend to be increases in education or intelligence, and are applied to the character immediately.

A NOTE ON GENDER AND RACE

Nowhere in these rules is a specific requirement established that any character (player or non-player) be of a specific gender or race. Any character is potentially of any race and of either sex.

FORMATS

Characters may be referred to in a variety of ways. The simplest involves an identification of the character's occupation or name, followed by the UPP (universal personality profile). For example, a non-player character may be introduced as Arlent Streen, businessman, 895678.

When more detail is needed, or if one wishes to be more precise, the following format should be used. The first line indicates rank, service, UPP, age, and can include name and noble title if desired. The second line shows terms served in the prior career, and current credit balance for the individual. The third line shows skills (and may take as many lines as are required). The last lines show personal possessions of any importance for the character. Other details may be recorded as well.

Game Designers' Workshop

1. Navy	557AF7	Age 30
4 terms		Cr0
Computer-1, Gunnery-1, Vacc-1		
Travellers' Aid Society Member		
2. Marine	968837	Age 22
1 term		Cr10,000
Gambling-1, Cutlass-1, Grav Vehicle-1		
3. Army Lieutenant Colonel	B77C84	Age 34
4 terms		Cr0
SMG-4, Auto Pistol-1, Rifle-1, Gambling-1, Tactics-1,		
Sword-1, Grav Vehicle-2		
2 High Passages, 1 Submachinegun		
4. Scout	5A5757	Age 28
2½ terms		Cr0
Electronics-1, Gunnery-1, Jack of all trades-1,		
Mechanical-1, Pilot-1		
Type S Scout Ship		
5. Merchant Second Officer	B67A83	Age 46
7 terms		Cr0
Carbine-1, Bribery-2, Electronics-1, Gunnery-1,		
Mechanical-1, Medic-2, Hovercraft-1		
3 Low Passages, 1 Carbine		
6. Other	6C7969	Age 30
Auto Rifle-1, Brawling-1, Streetwise-1,		
Jack of all trades-1		
1 High Passage, 1 Auto Rifle		

MERCHANT CAPTAIN ALEXANDER JAMISON

The following example is given to illustrate the process of character generation. Actual die throws are shown in brackets, as are comments on the application of game rules. Die modifications are labelled DM.

Alexander Lascelles Jamison. Having just finished school, Jamison sets out to win his fortune in the universe. Taking stock of himself and his personal qualities [generate all six personal characteristics; he rolls, consecutively, 6, 8, 8, 12, 8, 9] he soon decides that his UPP of 688C89 adapts him best for the merchant service. He visits his local starport, checks out the situation [required roll of 7+ to enlist, with a DM of +2 allowed for his intelligence of greater than 6; he rolls 5 (+2=7)], and just barely manages to convince a merchant captain to let him sign on.

First Term: During his first term of service [survival roll required is 5+, with a DM of +2 allowed for intelligence; he rolls 11 (+2=13)] he faces no great dangers, merely the humdrum of day-to-day events. His application for a commission [required roll of 4+, DM of +1 allowed for intelligence; he rolls 7(+1=8)] is a mere formality. As a 4th officer, he proves hard-working and efficient [promotion roll required is 10+, with a DM of +1 for intelligence; he rolls 10 (+1=11)], and is quickly promoted one rank. 3rd Officer Jamison clearly feels that he has found his place in life, and decides that he would like to continue in service [reenlistment roll of 4+ required, no DMs; he rolls 7] and reenlists. He has become eligible for four skills during this term of service [two for the initial term, one for obtaining a commission, and one for being promoted]. The work as 4th officer was, at times, strenuous [Table 1, roll 1= +1 strength] but he certainly developed his muscles. While

learning the details of his job and dealing with people [Table 1, roll 5= blade combat] he learns to handle a dagger. Routine operations [Table 2, roll 2= vacc suit] require that he learn to handle himself in a vacuum suit. Finally [Table 2, roll 5= electronics], he takes an elementary course in electronics.

Second Term: The rapidly maturing Jamison suddenly finds himself faced with some of the dangers of the merchant service [survival throw required is 5+, with a DM of +2 allowed for intelligence; he rolls 3, which is the lowest it is possible to roll and still survive (+2=5)], possibly a pirate raid. He does stay alive, however. His continued efficiency [promotion throw of 10+ with a DM of +1 for intelligence; he rolls 12 (+1=13)] gains him his desired promotion to 2nd officer. He signs on for a third term of service [reenlistment throw of 4+ required, no DMs; he throws 6] and is accepted. He is eligible for two skills this term [one for service and one for his promotion]. He goes on a physical fitness kick [Table 1, roll 3= +1 endurance] and learns to better defend himself [Table 2, roll 4= gun combat] using the small body pistol.

Third Term: Jamison's third term is rather uneventful [survival throw of 5+, DM of +2 for intelligence; he rolls 9 (+2=11)]. Unfortunately [promotion roll of 10+ required, DM +1 for intelligence; he rolls 8 (+1=9)], he fails the examination for 1st officer by two points, and does not receive a promotion. Determined to succeed, he reenlists [reenlistment roll of 4+ required, no DMs; he rolls 10]. He is eligible for one skill [Table 2, roll 5= electronics] and studies an advanced course in electronics to increase his knowledge.

Fourth Term: Things go right in the fourth term for Jamison. Facing little danger [survival throw of 5+ required, DM +2 for intelligence allowed; he rolls 7 (+2=9)], he also passes his 1st officer exam [promotion throw of 10+ required, DM +1 allowed for intelligence; he throws 12 (+1=13)] easily, receiving his promotion and an automatic pilot-1 expertise. Reenlisting again, he begins a fifth term of service [reenlistment roll of 4+ required, no DMs; he rolls 7]. He is eligible for two skills this term. He trains himself in the martial arts [Table 1, roll 5= blade combat], choosing the cutlass and [Table 2, roll 4= gun combat] the sub-machinegun. Finally, this being the end of his fourth term, Jamison is (for the first time) susceptible to aging [saving throws for strength (8+), dexterity (7+), and endurance (8+) are made; he rolls 12, 7, and 9, resulting in no changes].

Fifth Term: Beginning his fifth four-year hitch [survival roll of 5+ required, DM +2 for intelligence; he rolls 7 (+2=9)], he stands for promotion [promotion roll of 10+ required, DM +1 for intelligence; he rolls 10 (+1=11)] and makes captain. At this point [reenlistment throw of 4+ required, no DMs allowed; he rolls 3], the service falls on hard times, and notifies Jamison that it will no longer require his services after the current term. He is eligible to retire (with a pension of Cr4000 per year). His service entitles him to two final skills. He studies [Table 4, roll 5= pilot] to improve his piloting skill, and [Table 3, roll 3= electronics] continues his interest in electronics. Age also begins to take its toll [throw for strength (8+), dexterity



(7+), and endurance (8+); he rolls 9, 6, and 11, resulting in the reduction of his dexterity by one point] with a slight decrease in his health.

Mustering Out: Having completed twenty years of active duty in the merchant service, Captain Jamison is eligible for a variety of service benefits [five rolls on the tables for terms served, plus two by virtue of his rank; in addition, he is allowed +1 on all rolls on the benefits table]. He receives [cash table, roll 4= Cr20,000] a severance bonus of Cr20,000, [benefits table, roll 5 (+1=6)= +1 education] an educational benefit, [benefits table, roll 6 (+1=7)= merchant ship] possession of a merchant ship, [benefits table, roll 2 (+1=3)=middle passage] a travel allowance, [benefits table, roll 6 (+1=7)= merchant ship] credit for participation in the ship acquisition program, [benefits table, roll 6 (+1=7)= merchant ship] credit for more participation in the ship acquisition program, [benefits table, roll 6 (+1=7)= merchant ship] and more credit for participation in the ship acquisition program. Jamison has apparently been putting much of his salary and ship profits into a continuing program dedicated to acquiring a ship; now he has one, and thirty years of the forty year payment schedule have already been paid off.

Alexander Lascelles Jamison is now 38 years old, a retired merchant captain, with a pension of Cr4000 per year, and a healthy cash balance. His single middle passage, useless to him as a shipowner, has been converted to cash (Cr7,200). Considering that the merchants forced him out of the service at the peak of his career, he has some slight resentment against the merchant service.

Merchant Captain Alexander Jamison 779C99 Age 38
5 terms Cr31,200
Dagger-1, Cutlass-1, Vacc Suit-1, Pilot-2, Body Pistol-1,
Submachinegun-1, Electronics-3.
Type A Free Trader (ten years of payments remaining).

PERSONAL DATA AND HISTORY			1. Date of Preparation	
2. Name		3. UPP	Stren Dext Endur Intel Educ Soc	
4. Noble Title	5. Military Rank	6. Birthdate		
7. Age Modifiers (+ for drugs; - for sleep)		8. Birthworld		
SERVICE HISTORY		Personal service data produced from the appropriate character generation system.		
9. Service	10. Branch	11. Dischargeworld		
12. Terms Served	13. Final Rank	14a. Retired? <input type="checkbox"/> Yes <input type="checkbox"/> No	14b. Retirement Pay	
15. Special Assignments				
16. Awards and Decorations (include Combat Command Credits, Commendations, Medals, etc)				
17. Equipment Qualified On				
18a. Primary Skill		18b. Secondary Skill		
18c. Additional Skills				
19a. Preferred Weapon	19b. Preferred Pistol	19c. Preferred Blade	20. Travellers' Member? <input type="checkbox"/> Yes <input type="checkbox"/> No	
PSIONICS		Warning: Information regarding an individual's psionic ability is confidential, and may not be released without his or her consent.		
21. Date of Test	22. PSR	23a. Trained? <input type="checkbox"/> Yes <input type="checkbox"/> No	23b. Date Completed	
24. Talents and Current Levels				

TAS FORM 2

TAS Form 2— Personal Data and History allows players and referees to maintain a record of the details of any specific **Traveller** character. This form may be reproduced locally (photocopied or printed) by **Traveller** players or referees for their personal use. It is printed on this page closer to the outer margin to make photocopying easier.

This TAS (Travellers' Aid Society) form is intended to record the basic details of a **Traveller** character, and in addition to provide spaces for noting background materials (such as birthdate, world of origin, details of service history, etc.) which are generated in the course of long-term **Traveller** campaigns.

Blocks 3, 4, 5, 9, 12, 13, 14a, 14b, 18a, 18b, 18c, 19a, 19b, 19c, and 20 can be filled out using information produced in the chapter on character generation.

REFERENCES

The following blocks can be filled in using information provided in other chapters within this book.

1. Dates (blocks 1, 6, 21, and 23b) can use the Imperial calendar explained in the introduction.

2. Worlds (blocks 8 and 11) can be identified using the universal planetary profile specified in Worlds.

3. Psionics (blocks 21, 22, 23a, 23b, and 24) can be determined using the rules provided in Psionics.



Personal Combat

As adventurers journey through the cities and the wilds of the worlds they visit, they will encounter beings of many kinds, some wild, some intelligent, some violent. At times, the only way such encounters can be dealt with is by force. In order to resolve such encounters, the following combat system is provided.

This **Traveller** personal combat system is as important for what it shows as for what it allows. Any player who understands the system is automatically in a position to make reasonable decisions about when to stand and fight, and when to prudently run away. Understanding the system gives the individual an insight into the probabilities of surviving any specific encounter.

BASIC COMBAT CONCEPT

This combat system is intended to cover situations where a party of adventurers (of one or more characters) encounters a party of people or a group of beasts, and violence is offered by either side. The actual circumstances of each encounter are governed by the referee, in accordance with the rules in the chapter on encounters. Those rules provide for the likelihood of encounters and for the basic reaction of the other party in response to the encounter.

Combat is based on successive attacks by each character involved (blows if brawling, swings with blade weapons, and shots with guns). A basic throw of 8+ is required in every case to obtain a hit; that throw is subject to die modifications (DMs) for such considerations as range between the two parties, attacker and defender expertise in the weapons they are using, the types of weapons used, surprise, and other factors. If a hit is obtained, wounds are inflicted based on the type of weapon which made the hit.

Each combat round lasts 15 seconds. Combat continues until one party is vanquished, flees, dies, or surrenders.

ENCOUNTERS

Specific encounters with beings of various types are called for by the referee, by pre-generated encounter tables (detailed in the chapter on encounters), or by the situation. Each encounter can be defined by the questions Who or What? How Many? Why? How? When? and Where?

Who or What? The referee should detail the identity of the encountered individuals (Who? in the case of intelligent beings; What? in the case of beasts). For individuals, the referee should know the UPP (from the chapter on character generation), plus any skills, weapons, and other data necessary for the encounter. Such data can be generated on the spot, derived from pre-generated lists or tables, or simply faked, depending on how important it is. For beasts, the referee should know the details of the animal (from the chapter on animal encounters), including wound and death points, weaponry, armor, and reactions. The data can be taken from animal encounter tables or generated on the spot.

How Many? The number of encountered individuals or animals should be determined. In some cases, an encounter table may indicate a precise number, or a die roll may be called for.

Why? The referee should determine a reasonable motivation for the encounter. For people, it may range from rowdiness or robbery, to protection of territory; for animals, it may involve search for food, fear, bad temper, or protection of young.

How? The referee should determine the details of the encounter, to include specific situation, transport available, and relative disposition of each side.

When? The precise time should be determined, which in turn affects lighting, weather, and other conditions.

Where? The referee should determine the specifics of terrain, including terrain type (generally already known), specific type of terrain within the terrain type (including details of possible cover and concealment), and any other pertinent facts.

The referee should not present all of this information to the players in one lump. They should be told precisely what they can see or otherwise determine. As the encounter progresses, additional details may unfold.



COMBAT PROCEDURE

1. Determine the facts of the encounter.
 - A. Which party has surprise?
 - B. Initial encounter range?
 - C. Escape or avoidance?
2. Begin combat round.
 - A. Individual movement status.
 - B. Individual targets and attacks.
 - 1) Attacker's DMs.
 - 2) Defender's DMs.
 - C. If attack succeeds, determine wounds inflicted at end of the round.
 - D. Roll for morale if unit has taken 25% casualties.
 - E. Begin a new combat round (go to 2 above).
3. When combat ends, attend to the wounded and regroup forces.

INITIAL ENCOUNTER PROCEDURE

Once an encounter occurs, and it appears to require violence, the combat procedure is used to determine the resolution of combat. Surprise, encounter range, and escape or avoidance are determined and executed only once per encounter. The combat round is performed cyclically until the combat is concluded.

Surprise: Surprise is possible for either party, and the element of surprise gives an advantage both in attacking and in avoiding the enemy. Roll one die for each party: if one party has a die roll of three or more greater than the other party, the higher rolling party has achieved surprise. DMs are allowed for each party depending on expertise and situation, as shown in the surprise DM table.

Only one party can achieve surprise, and it is possible that neither party will achieve surprise. If no surprise is achieved, both parties are considered to be aware of each other at the range of the encounter.

A party with the element of surprise may elect to avoid contact with the other party; see escape and avoidance.

A party with the element of surprise may attack with surprise swings, blows, and shots until surprise is lost. The endurance rule contains the definition of surprise blows. Surprise is lost when a member of the other party gives the alarm in some manner. All unsilenced shots will alert the enemy to an attack; silenced pistols, laser weapons, and all guns in vacuum do not make any noise when fired. Any character who is hit but not rendered unconscious will make sufficient noise (probably a scream) to raise the alarm. If the alarm is not raised in this manner, there is a chance (throw 9+ for it to occur) that an unattacked comrade in the defending party will see the person fall and give the alarm. Surprise continues until it is lost, and may thus continue indefinitely. Once surprise is lost, normal combat begins.

Because all attacks (shots, blows, and swings) are made simultaneously, all members of the attacking party may each make one attack as a surprise if the party has surprise. If surprise is not lost, each member of the party may make another surprise attack. This continues until surprise is lost. Because the attacks are simultaneous, everyone completes their surprise attacks even if one of them results in the loss of surprise.

Range: Encounters initially occur at any one of five ranges: close, short, medium, long, or very long. The specific initial range of an encounter is dependent on the referee's specific statement, or on a two-dice roll using the encounter range table. Throws on the range table are subject to DMs from the terrain DM table. In essence, the DMs take into account the altered probabilities of specific encounter ranges in differing terrain types. An encounter at close range is much less likely on a prairie than in a city, for example. Determine the DM from the terrain DM table and apply it to a two-dice roll on the encounter range table. The result indicates the range at which the two parties encounter. The distance equivalents of the ranges used in combat are given in the range table.

Escape and Avoidance: Encountering parties may attempt to escape from, or avoid contact with, an encounter. A party which has achieved surprise may always avoid an encounter by so stating. Non-player character parties which have surprise and are outnumbered will avoid an encounter on a throw of 7+ (no DMs). If two parties encounter without surprise, either may attempt to escape immediately (before any combat or contact occurs). Roll 9+ to escape (DM allowed based on range: -1 if close or short range, +1 if medium range, +2 if long range, +3 if very long range). A non-player character party will attempt to escape at the option of the referee, based on the situation. Animals operate under different rules, as explained in the chapter on animal encounters.

Once contact or combat begins, a party may leave the field of battle only through movement.

THE COMBAT ROUND

Combat is resolved in rounds, each representing approximately 15 seconds of real time. Within each round, each individual character, non-player character, and animal is allowed an opportunity to move and to attack. Each may be attacked by one or more enemy characters, non-player characters, or animals. Once all individuals in the battle have been provided the opportunity to attack, the combat round is over, and the next combat round begins.

Generally, all individuals perform their movement first, followed by their attacks.

MOVEMENT

For movement, distances are measured in range bands, each representing approximately 25 meters. The range band table gives the size of each of the combat ranges in range bands. For example, a character four range bands away from another character is at long range with respect to the other character.

In order to provide a simple display of ranges in an encounter, it is suggested that they be mapped out on a line grid (as illustrated on the charts page). Ordinary lined paper serves this purpose quite well. Each band on the grid represents one range band. At the beginning of an encounter, markers representing each of the members of the encountering party and those encountered are placed in bands separated by a distance corresponding to the encounter distance. In subsequent rounds, characters may move to close or open the range.

Close and short range are each less than a complete range band in size. To indicate that two characters are at close range, place their markers touching each other. All other characters in the same range band are at short range.

Characters may move one band per combat round if walking or two if running; animals may move faster, as covered in the chapter on animal encounters.

The line grid is intended to provide a simplified way of taking care of range determination and sacrifices some realism for the sake of play ease. The referee may choose to expand this system to a square or hexagonal grid in order to take maneuver and actual position into account.

Before each combat round, each character must state his or her movement status. The four possible movement statuses are evade, close range, open range, and stand. In addition, the individual may be walking (at ordinary speed), running (at double speed), or riding in a vehicle.

Evade: A combatant, at any range, may state evade as a status. The person may not make any attack (no swings, blows, or shots are allowed) during the combat round and may not use his weapon to parry or block (see Expertise); he or she receives an advantageous DM in the defense, based on range from the attacker (-1 if at short or close range, -2 if at medium range, -4 if at long or very long range).

Close Range: A combatant may elect to move closer to the enemy during the combat round. Normally characters may walk, moving one range band per combat round, or run (or ride animals or vehicles) at approximately double speed. Running is an expenditure of energy and is counted as a combat blow (reducing total endurance points and prohibiting the character from making any swing or blow attacks that round); see the endurance rule. Moving from short to close range is counted as moving one range band.

Open Range: A combatant may move away from the enemy by opening range in much the same manner as he would close range. However, he may move from close range to one band away in one move without running.

Stand: A combatant may elect not to move.

All movement is performed simultaneously. If parties consist of more than one member, each member may decide what his movement will be for the round. Any character who moves more than 20 bands away from the nearest enemy character is out of range and has escaped.

COMBAT RESOLUTION

Combat is resolved in a series of attacks represented by dice throws made by the combatants. A series of such throws (where each participating individual capable of combat action performs it or elects not to) is a combat round. Combat rounds continue until the battle is resolved with defeat of one party through rout, death, or surrender.

Basic Required Throw: During each combat round, each combatant selects a member of the opposing party as a target. A basic throw of 8+ is required to hit the target. A hit then calls for determination of wounds inflicted.

The basic throw of 8+ is subject to a variety of applicable die modifiers, including armor/weapons relation, range, strength of attack (combat or weakened blows), movement status, attacking and defending expertise, and other aspects. The weapon matrix indicates weapon/armor

relation; the range matrix indicates range effects; the weapon table indicates the effects of strength and dexterity and of weakened blows. Other DMs are called for by later sections of these rules.

All DMs to the basic throw to hit are cumulative, being added together and then applied to the basic throw. It is important to remember that adding negative numbers (DMs) is subtracting ($3+1=4$; $3+-1=2$; $-3+-1=-4$).

Roll two dice and modify by the DM created; if the modified result is 8 or greater, the attack has achieved a hit on the target. If a hit is achieved, the wound column on the range matrix must be consulted to determine the extent of the wounding which has occurred.

Wounding and Death: The wound column indicates the amount of damage which has been inflicted on the target if a hit is achieved, and is dependent on the type of weapon used (not the strength of the character or of the blow). The abbreviation used in the wound column is a capital D, meaning die or dice. The number before the D indicates the number of dice to be thrown: thus 3D means that the wound has inflicted hits equal to the throw of three dice.

Wound points are applied to the target's (defending character's) strength, dexterity, and endurance on a temporary basis. Each die rolled (for example, each of the two dice rolled in a result of 2D) is taken as a single wound or group of hits, and must be applied to a single characteristic. The wounded player may decide which physical characteristic receives specific wound points in order to avoid or delay unconsciousness for as long as possible.

The first wound received by any character, however, can be sufficient to stun or daze him or her, and is handled differently. This first wound is applied to one of the three physical characteristics (strength, dexterity, or endurance) determined randomly. If that characteristic is reduced to zero, then any remaining hits are then distributed to the other physical characteristics on a random basis. As a result, first blood may immediately incapacitate or even kill.

When any one characteristic is reduced to zero by wounds, the character is rendered unconscious. When two have been reduced to zero, the character has been seriously wounded. When all three have been reduced to zero, the character is dead. Once a characteristic has been reduced to zero, further points may not be applied to it; they must be applied to other (non-zero) characteristics.



Unconscious characters (with at least one characteristic reduced to zero) recover consciousness after ten minutes (40 combat rounds) with all three physical characteristics temporarily placed at a value half way between full strength and the wounded level. The individual is considered to have sustained minor wounds. For example, a character with a strength of 8 who is wounded to a strength of 4 (and rendered unconscious through the zeroing of another characteristic) becomes strength 6 when he regains consciousness, and remains so until recovered. Round fractions against the character. A return to full strength for the character requires medical attention (a medical kit and an individual with at least medical-1 skill) or three days of rest.

Unconscious characters with two characteristics reduced to zero are considered seriously wounded and recover consciousness after three hours. Their characteristics remain at the wounded level (or 1, whichever is higher). Recovery is dependent on medical attention (a medical facility and an individual with medical-3 skill; recuperation to full strength without medical attention is not possible).

For example, in a firefight, three adventurers (each with UPP 777777) are hit by rifle fire. A rifle inflicts 3D hits. The attacker is unlucky against Adventurer One and rolls 1, 1, 1. Because this is One's first wounding in the combat, all three hits are applied against one characteristic, and the referee, rolling randomly, applies the hits against strength. Adventurer One is temporarily reduced to UPP 477777 for wounding purposes only. Adventurer Two fares less well. The attacker rolls 6, 3, 4. Again, because this is Two's first wounding of the combat, all hits are applied against one characteristic (a die roll applies them against his strength). Adventurer Two's strength is reduced to 0, absorbing the first die and 1 hit from the second; the remaining hits from the second die and all of the third die are applied randomly to his other two physical characteristics (two more die rolls apply 2 hits to endurance and 4 hits to dexterity). Two's temporary UPP is now 054777; he is unconscious. Adventurer Three fares worst of all. The rifle fire die rolls are 6, 6, 6. All hits are randomly applied to his dexterity, reducing it to zero after absorbing the first die and 1 hit from the second. The remaining hits from the second die and all of the third die are applied randomly again, both against his strength; the remaining 5 hits from the second die and 2 hits from the third die reduce strength to zero. The remaining 4 hits from the third die are applied to his only remaining characteristic, endurance. Adventurer Three is seriously wounded with a temporary UPP 003777.

THE EFFECTS OF CHARACTERISTICS

Personal characteristics can affect combat, being the source of die modifications based on weapons and the duration of the battle. Wounds do not affect characteristics as they are used to influence blows, swings, or shots. For example, a still-conscious character with strength reduced from 9 to 7 would still function as if he had strength 9. However, once wounds bring a characteristic to zero, the individual is unconscious, and characteristics are of little use.

Strength: The efficiency of various blows and swings

(but not of shots) is dependent on personal strength. The weapons table indicates both a required strength level and an advantageous strength level for all blade and brawling weapons. A character using a specific weapon who does not have strength equal to or greater than the required strength level for that weapon is subject to the negative DM (applied to the basic throw to hit) stated in the weapons table. For example, a character with strength 5 does not meet the required strength of 7 for the cutlass, and if using that weapon is subject to a DM of -2.

A character of great strength, equal to or greater than the advantageous strength level stated for a specific weapon being used, is eligible for a positive DM (applied to the basic throw to hit) given in the table. For example, a character with strength 11 or greater is allowed a DM of +2 when using the cutlass.

Dexterity: The accuracy of shots is dependent on the dexterity of the character firing the weapon. In a manner similar to the effect of strength on swings and blows, the weapons table indicates the required and advantageous dexterity levels for guns, and shows the positive and negative DMs which should be applied to the basic throw to hit.

Endurance: The number of blows and swings which may be made, and their impact, is dependent on endurance. Shots are unaffected by endurance, and an individual may make as many shots as ammunition is available. For this purpose, all blows and swings may be classed into one of four classes: surprise, combat, weakened, and special.

Surprise blows and swings are completely unrestricted; as long as the attacking character retains the element of surprise, he or she may make surprise blows and swings without limit (but only one per combat round).

Combat blows and swings are the ordinary attacks made in the course of battle after surprise is lost. A character may make a number of combat blows and swings which does not exceed his endurance; a character with endurance 9 may make 9 combat blows. Once this allowance has been used up, the character may make no more combat blows until he has rested for at least thirty minutes.

Weakened blows and swings are those attacks made after the combat blow and swing allowance has been used up. Each weakened blow or swing is subject to the negative DM indicated in the weapons table. Any number of weakened blows and swings may be made. To conserve strength, a character may elect to make any blow or swing weakened, and thus not have it counted against his endurance limit.

Special blows and swings are allowed in situations in which strength would not normally be a factor, such as against an unconscious opponent. Special blows and swings are not weakened, and may be made at any appropriate time without affecting the endurance limit.

Note that a character is allowed only a specific number of swings and blows by his endurance characteristic, and that only one blow or swing may be made per combat round. The number of blows and swings is based on the individual's endurance at the beginning of the combat encounter; wounds suffered during the encounter do not reduce the total possible swings and blows, but wounds suffered prior to the encounter which reduce endurance will reduce the allowance accordingly. The total allowance

for swings and blows applies to all such attacks, regardless of whether the character shifts from brawling to blade combat or back. Gun combat is not affected by endurance.

EXPERTISE

A character's expertise or skill in a weapon can affect personal combat in both the attack and the defense.

Attacking: The level of expertise in a specific weapon is used as a positive DM on the basic throw to hit. If the character changes the weapon being used, then the expertise for the new weapon is used in combat.

Parrying: A character may use his expertise level in his brawling or blade weapon as a negative DM when engaged in brawling or blade combat (i.e. when using a brawling or blade weapon against an enemy also using such a weapon). The character is considered to be blocking or parrying his enemy's blow. Obviously, only blows or swings may be blocked, not shots. A long gun such as a rifle or carbine (but not a pistol) may be used to parry; if so, it is treated as a brawling weapon (a cudgel). A weapon may be used both to attack and parry in the same round.

Untrained Weapon Usage: Any character using a weapon in which he or she has no training is subject to a penalty of -5 when attacking and +3 when defending. All player characters automatically have an expertise of zero (for example, carbine-0) in all weapons shown in this book. This zero value is sufficient to avoid the no-expertise penalty, but it is not enough to provide a positive DM. Player characters selecting their weapons should consider the potential benefits of their strength and dexterity levels and any DMs that might be available for those characteristics.

WEIGHT

Characters are restricted in the total weight which they may carry, and may suffer negative effects if they carry enough weight to become encumbered. Individuals carrying sufficient weight to become encumbered have their UPP values temporarily reduced; these reduced UPP values are used when computing wounds and unconsciousness.

Normal Load: Any character may carry a load equal to his or her strength characteristic, in kilograms. A person with strength 12 could carry 12 kilograms. Weapons and other materials are given weights in grams and kilograms. Load is calculated by totalling the weight of all relevant items. Clothing, personal armor, and minor items such as holsters, scabbards, and belts are not counted. Other items such as tools, communicators, instruments, rations, and calculators are described in the chapter on equipment, and their weight constitutes part of the total load.

Double Load: A character may carry up to twice his or her strength in kilograms. Someone with strength 6 could carry 12 kilograms. Encumbered persons are treated as if their strength, dexterity, and endurance are one less than normal. For example, a character with a UPP 788953 carrying 12 kilograms of load would be treated as 677953 until such time as at least 5 kilograms have been shed.

Triple Load: A character who is part of a military force (mercenary unit; combat unit; troop unit) may carry up to triple his or her strength in kilograms, subject to a reduction of 2 in strength, dexterity, and endurance.



Different Gravity: Worlds vary in size and density, and their gravity varies in proportion. World sizes are explained in the chapter on worlds. A world of size 8 is assumed to have normal gravity. Subtract the size of the world on which the adventurers are from 8 and multiply the result by 12.5%. This indicates the additional load that the character is capable of carrying, in kilograms.

For example, on a world identified as size 4 ($8-4=4$; $4 \times 12.5\%=50\%$) a character can carry an additional 50% load without being considered encumbered. A world with size 10 ($8-10=-2$; $-2 \times 12.5\%=-25\%$) reduces the allowable load by 25%.

World sizes assume that the world has normal (Earth) density; different densities of worlds are possible through the use of a density constant K (generally assumed to have a value of 1; determined by the referee). When a density constant K is in use, multiply the world size by K to determine the true gravity factor, and use that in determining load sizes.

MORALE

A party of adventurers which sustains casualties in an encounter will ultimately break or rout if it does not achieve victory.

At the point in time when 20% of a party is unconscious or killed, the party must begin making morale throws. For an average party, 7+ is the throw to stand, or not break and run. Valiant parties may have a higher throw. DMs are allowed: +1 if the party is a military unit; +1 if a leader (leader skill) is present; +1 if the leader has any tactical skill; -2 if the leader is killed (for two rounds at least, and until a new leader takes control); -2 if casualties (unconscious and dead) exceed 50%.

TYPICAL ACTIONS

It is impossible to accurately predict all possible actions which can occur in combat. This situation is one reason why a referee is desirable when combat is to be resolved.

The typical actions table in the combat charts lists a wide variety of possible actions which are covered by these

rules. If other actions are called for, the referee must adjudicate their results.

WEAPONS USAGE

The following are important to the implementation of weapons use.

The Combat Charts: The combat charts provide the information required to resolve combat between individuals and groups.

Standard Weapons: An array of standard blade weapons and guns is provided on the combat charts; these weapons are further detailed and illustrated in the section on combat equipment.

Non-Standard Weapons: A variety of non-standard weapons are possible, and may be implemented within this combat system. In general, such weapons are similar to those in the system, and are differentiated only in terms of a positive or negative DM. For example, a pocket knife is inferior to a dagger, and may be treated as a dagger minus 1. Dagger minus 1 is subject to a DM of -1 in addition to all other DMs called for by the combat system. Similarly a target pistol might be expressed as an automatic pistol plus 1. Many animal weapons (claws, teeth, etc.) are treated as +1 or -1 in the chapter on animal encounters.

Non-standard armor (especially for animals) is treated in the same way as non-standard weapons.

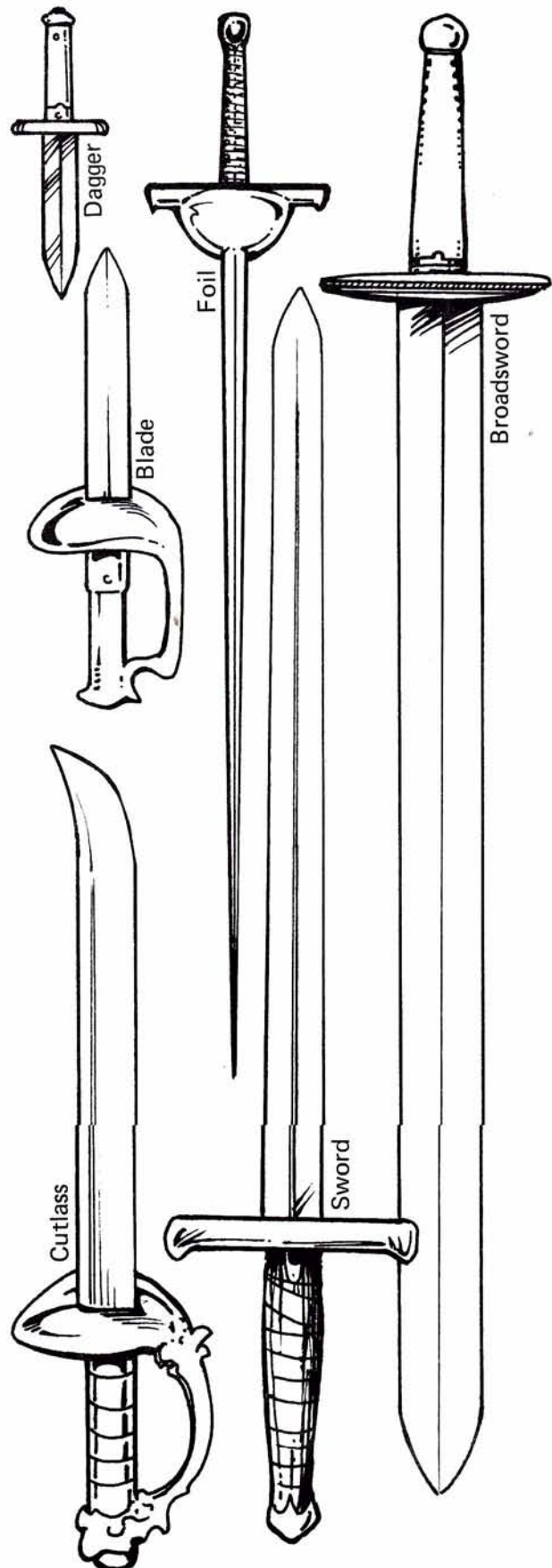
Square Grid Activity: Many deck plans, floor plans, or other maps for *Traveller* are drawn with a square grid, usually representing squares of 1.5 meters each. If grids of this or similar scales are used, then changes should be made to the range band system. Walking speed is 8 squares per combat round. Running is 16 squares per combat round. Greater speeds are in multiples of 8 squares per combat round. Specific activities such as opening doors or hatches each take one combat round, during which time the individual should be treated as evading.

COMBAT EQUIPMENT

The weapons and armor used by a character constitute his or her primary means of achieving goals once logic and persuasion have failed. Weapons are also essential for self-defense. These various weapons, weapon accessories, and armor are described below. *Weights are given in grams; costs are given in credits (Cr).* The technological level at which the weapon is first produced is shown after the abbreviation TL; tech levels are explained in the chapter on worlds.

Brawling Weapons: Brawling generally involves found or easily located weapons which are already at the site of the brawl. Brawling weapons are effective only at close and short range. Such weapons are classified as clubs, cost nothing, and generally weigh from 500 to 3000 grams (one die times 500 grams). Pistols may be used as clubs when brawling. Bottles may be used as clubs (once, then they become dagger minus 1). Animals are equipped with their own weapons, generally specified in the encounter tables which specify and define the animal.

Blade Weapons: The following edged weapons cover the range of blades which are available. Blade weapons are effective only at close and short range.



Dagger (250 grams; Cr10; TL 1): A small knife weapon with a flat, two-edged blade approximately 200mm in length. Daggers are usually carried in a belt sheath, and less frequently are concealed in a boot sheath or strapped to the forearm. Daggers are usually the last weapon of defense, and worn constantly. Each weighs 250 grams; that weight, however, does not count against the weight load of the character as the weapon is worn constantly and comfortably.

Blade (350 grams; Cr50; TL 3): A hybrid knife weapon with a heavy, flat two-edged blade nearly 300mm in length, and a semi-basket handguard. Because of the bulk of the handguard, it is generally carried in a belt scabbard.

Foil (500 grams; Cr100; TL 3): Also called the rapier, this weapon is a light, sword-like weapon with a pointed, edged blade 800mm in length, and a basket or cup hilt to protect the hand. Foils are worn in belt scabbards.

Cutlass (1250 grams; Cr100; TL 3): A heavy, flat-bladed, single-edged weapon featuring a full basket hilt to protect the hand. The cutlass is the standard shipboard blade weapon and usually kept in brackets on the bulkhead near important locations; when worn, a belt scabbard is used. Blade length varies from 600 to 900mm.

Sword (1000 grams; Cr150; TL 1): The standard long-edged weapon, with a flat, two-edged blade. It may have a basket hilt or hand protector. A scabbard to carry the sword may be attached to the belt, or to straps (or a sash) over the shoulder. Blade length varies from 700 to 950mm.

Broadsword (2500 grams; Cr300; TL 2): The largest of the sword weapons, also called the two-handed sword because it requires both hands to swing. The blade is extremely heavy, two-edged, and about 1000 to 1200mm in length. The hilt is relatively simple, generally a cross-piece only, with little basketwork or protection. When carried, the broadsword is worn in a scabbard attached to the belt; less frequently, the scabbard is worn on the back, and the broadsword is drawn over the shoulder.

Polearms: The following polearms are generally available. In most cases, they will be in the hands of non-player characters encountered in the process of an adventure. Polearms are effective at close and short range.

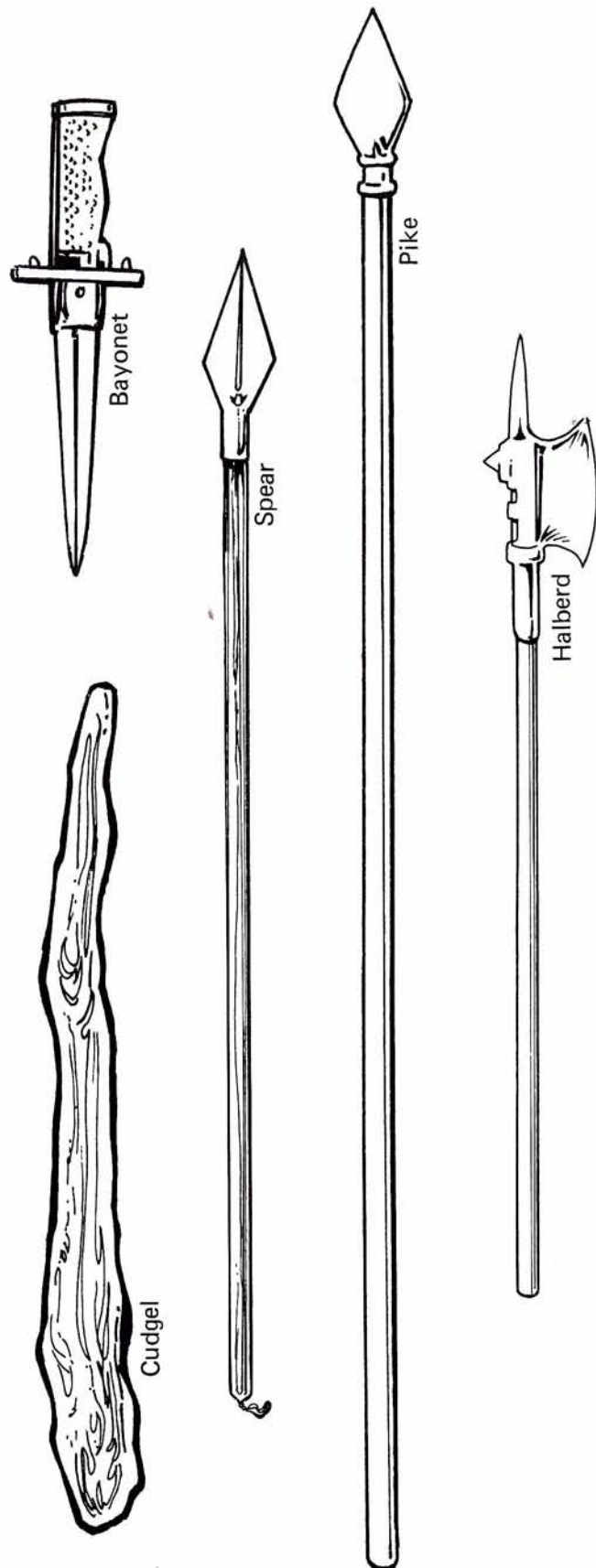
Bayonet (250 grams; Cr10; TL 3): A knife-like weapon similar to a dagger or blade. When not attached to a rifle, a bayonet is treated as a dagger (or blade), carried in a belt scabbard, and requires dagger (or blade) skill for use to advantage. When attached to the muzzle of a rifle (only, not carbine or auto rifle), it transforms the gun into a polearm, and increases the length of the arm by 200mm.

Spear (2000 grams; Cr10; TL 0): A long (3000mm) polearm with a pointed tip, usually of metal. Often made by the soldier himself, the spear is quite inexpensive.

Pike (3000 grams; Cr40; TL 1): A long (3000 to 4000mm) polearm with some form of flat blade tip. Pikes are commonly carried as weapons by tech level 1 troops.

Halberd (2500 grams; Cr75; TL 2): A quite elaborate polearm featuring a pointed, bladed tip. This weapon may be considered to be a combination between a battle ax and a spear. Halberds are often carried by tech level 2 guards. Length: 2500mm.

Cudgel (1000 grams; Cr10; TL 0): A basic stick used as a





weapon. Easily obtained from standing trees or through the use of an unloaded long gun such as a rifle or carbine (laser weapons are too delicate to be used as cudgels). Length: 1000 to 2000mm.

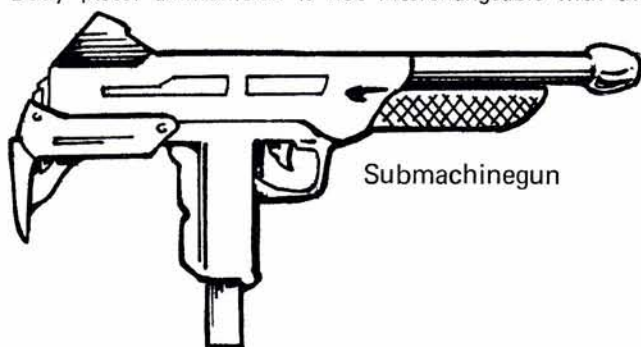
Guns: The following guns are generally available on worlds of sufficient tech level; their availability is restricted, however, by the law level of the specific world. Law levels are explained in the chapter on worlds. Guns vary in effective range depending on their specific type; range limitations are shown on the combat charts.

All of the guns shown in this list (with the exception of the revolver) are auto-loading weapons. Each automatically reloads the gun's chamber with a new cartridge after each shot. Only when the weapon's total capacity is exhausted must the shooter reload the gun with a new magazine. Although the revolver is not auto-loading, it also contains a quantity of ammunition and need not be reloaded until its ammunition capacity is exhausted.

Unless noted otherwise, the weapons are semi-automatic; each fires one bullet or shot with each pull of the trigger. Automatic rifles and submachineguns are full-automatic with a burst control which allows firing four shots with each pull of the trigger. Full automatic fire allows special effects with higher hit probabilities and potential for group hits as detailed in the section on special considerations.

The section on special considerations also provides details on reloading weapons which have run out of ammunition.

Body Pistol (300 grams loaded; Cr 520; TL 7): A small, non-metallic semi-automatic pistol designed to evade detection by most weapon detectors. It fires 5 gram projectiles at a velocity of 500 to 600 meters per second. A magazine containing six cartridges is located in the pistol handle. Body pistol ammunition is not interchangeable with the



ammunition for any other types of guns.

A body pistol can be fitted with a silencer.

Length: 100mm. Weight, unloaded: 250 grams (a loaded magazine weighs 50 grams). Base price: Cr500 (one loaded magazine: Cr20).

Automatic Pistol (1000 grams loaded; Cr210; TL 5): The basic semi-automatic handgun, firing 9mm caliber bullets (each weighing approximately 10 grams) at velocities from 400 to 500 meters per second. A magazine containing 15 cartridges fits into the handle of the pistol. Automatic pistol ammunition is interchangeable with submachinegun ammunition (although magazines are not).

An automatic pistol can be fitted with a silencer and a detachable shoulder stock.

Length: 175mm. Weight, unloaded: 750 grams (loaded magazine weighs 250 grams). Base price: Cr200 (loaded magazine: Cr10).

Revolver (1000 grams loaded; Cr155; TL 4): An older variety of handgun, the revolver fires 9mm bullets with characteristics similar to those fired by the automatic pistol, but not interchangeable with them. The revolver is a repeating handgun; it fires one shot with each pull of the trigger. It is not, however, semi-automatic, depending on finger pressure to do the reloading. No magazine is used: six cartridges are inserted into the revolver individually. Reloading takes two combat rounds, or one combat round if the individual foregoes the benefit of evasion.

A revolver can be fitted with a silencer and a detachable shoulder stock.

Length: 200mm (some versions may be shorter or longer). Weight, unloaded: 900 grams (weight of six cartridges: 100 grams). Base price: Cr150 (six cartridges cost Cr5).

Submachinegun (3000 grams loaded; Cr520; TL 5): A small automatic weapon designed to fire pistol ammunition. Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design. The gun fires four rounds per pull of the trigger. Submachinegun ammunition (but not magazines) is interchangeable with automatic pistol ammunition.

Most submachineguns are equipped with slings to allow ease of carrying.

Length: 450mm. Weight, unloaded: 2500 grams (loaded magazine: 500 grams). Base price: Cr500 (loaded magazine: Cr20).

Carbine (3125 grams loaded; Cr210; TL 5): A short type of semi-automatic rifle firing a small caliber round (a 6mm bullet, weighing 5 grams, at a velocity of 900 meters per second). A magazine containing ten rounds is inserted into the underside of the carbine, ahead of the trigger guard. Carbine ammunition is not interchangeable with any other type of ammunition.

In essence, a carbine is a short rifle, firing a cartridge of smaller, lighter caliber. The carbine is a preferred weapon for individuals who otherwise do not handle firearms. Its light weight makes it convenient and efficient. A sling usually allows the carbine to be carried on the shoulder, out of the way.

A carbine may be fitted with telescopic or electronic sights, and with a folding stock.

Length: 750mm. Weight, unloaded: 3000 grams (loaded magazine weighs 125 grams). Base price: Cr200 (loaded magazine: Cr10).

Rifle (4500 grams loaded; Cr220; TL 5): The standard semi-automatic military arm, firing a 7mm, 10 gram bullet at a velocity of approximately 900 meters per second. Longer and heavier than a carbine, it is also more effective. Standard equipment includes provisions for attaching a bayonet and telescopic sights, and a shoulder sling.

A twenty-round magazine is attached to the front of the trigger guard. Rifle ammunition may also be used in automatic rifles; rifle and auto rifle magazines are interchangeable, and weigh the same.

A rifle can be fitted with either telescopic or electronic sights, and with a folding stock.

Length: 1000mm. Weight, unloaded: 4000 grams (loaded magazine weighs 500 grams). Base price: Cr200 (loaded magazine: Cr20).

Automatic Rifle (5500 grams loaded; Cr1020; TL 6): A highly refined and tuned version of the rifle, capable of full automatic fire as well as semi-automatic shots. Normally, the automatic rifle fires in bursts of four bullets for each pull of the trigger. It may be switched to semi-automatic fire at the end of a combat round, after all firing, in which case it is treated as a rifle until switched back. Ammunition and magazines are identical to those used for the rifle.

The automatic rifle is equipped with a sling (which allows the weapon to be slung from the shoulder while carried in the ready to fire position), a bipod, and a muzzle brake to steady the gun while firing.

Some versions of the automatic rifle are available which use 100 round belts of ammunition (not usable in rifles, however). Such belts cost Cr120 (the equivalent of six loaded magazines) and weigh 2500 grams. Reloading with a new belt requires three combat rounds.

Length: 1000mm. Weight, unloaded: 5000 grams (loaded magazine: 500 grams; 100-round belt: 2000 grams). Base price: Cr1000 (loaded magazine: Cr20; complete 100-round belt: Cr120).

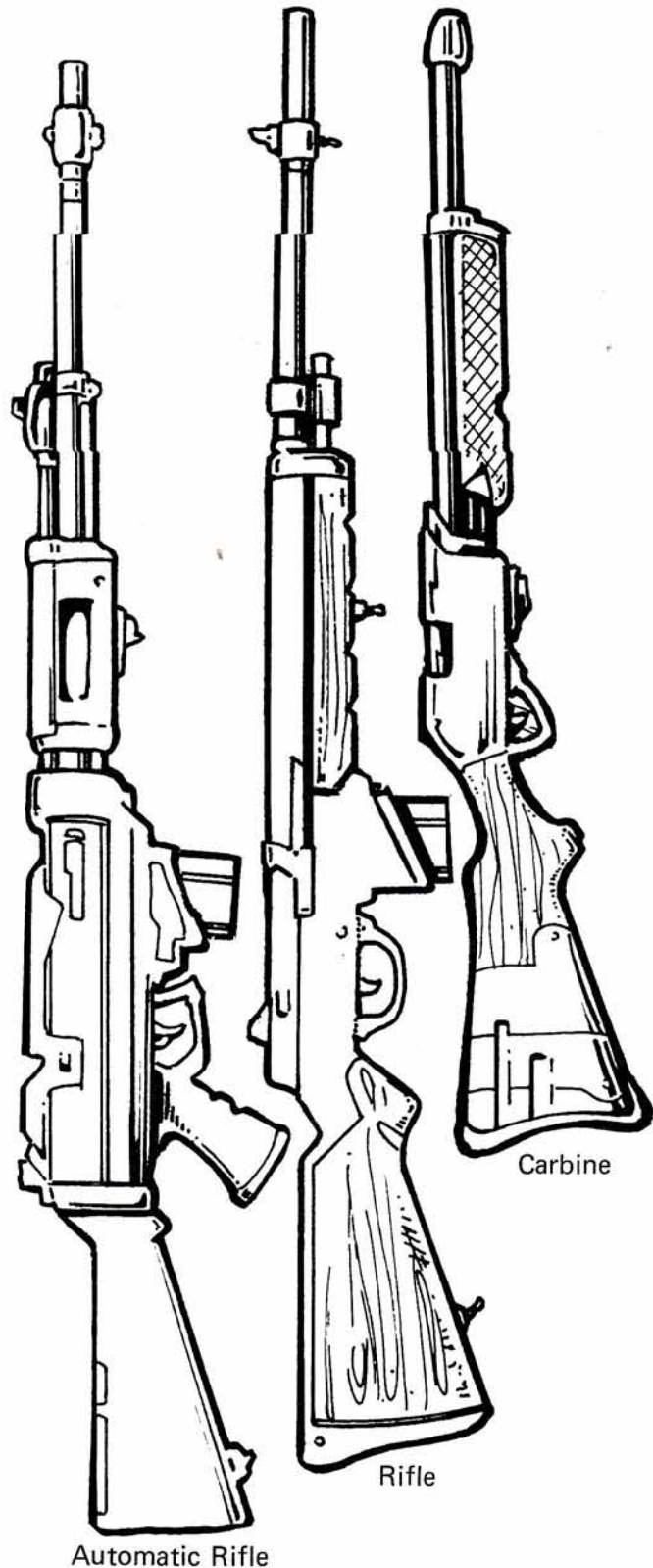
Shotgun (4500 grams loaded; Cr160; TL 4): The basic weapon for maximum shock effect without regard to accuracy. The shotgun has an 18mm diameter barrel and fires shells containing either six 7mm bullets, or one hundred and thirty 3mm pellets. In each case, the projectiles weigh a total of 30 grams. Velocity for the projectiles is about 350 meters per second. A cylindrical magazine containing 10 shells is inserted under the barrel and parallel to it; cartridges are then fed automatically into the shotgun for firing. Reloading consists of replacing the cylindrical magazine and takes two combat rounds. One shot is fired for each pull of the trigger.

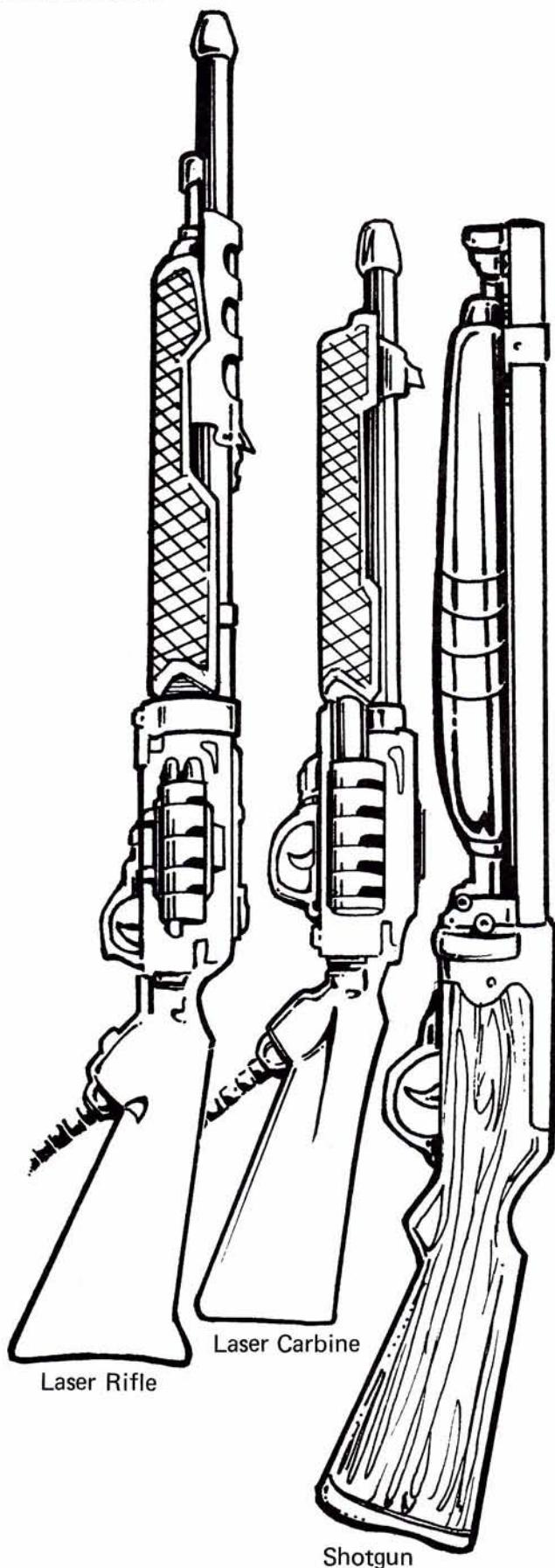
Magazines measure approximately 350mm long by 20mm in diameter and are quite clumsy to carry.

Shotguns are equipped with a sling for carrying. They may be fitted with a folding stock.

Length: 1000mm. Weight, unloaded: 3750 grams (loaded magazine: 750 grams). Base price: Cr150 (loaded magazine: Cr10).

Laser Carbine (8000 grams, including power pack; Cr3500; TL 8): A lightweight version of the laser rifle,





firing high energy bolts using current from a backpack battery/power pack. The laser carbine fires a 2mm beam of energy, aimed by integrated optic sights. The power pack is capable of producing 50 shots before it requires recharging. Recharging requires at least eight hours connected to a high energy source. The laser carbine is connected to the power pack by a heavy duty cable.

Length: 800mm. Weight of carbine: 5000 grams. Weight of power pack: 3000 grams. Base price: Cr2500 (extra power pack: Cr1000). Cost of recharge, at commercial rates: Cr200.

Laser Rifle (10 kilograms, including power pack; Cr 5000; TL 9): The standard high energy weapon, firing high energy bolts in the same manner as the laser carbine. Heavier than the laser carbine, the laser rifle is also capable of longer sustained action, and is constructed somewhat more sturdily. The power pack can provide 100 shots before recharging. As in the laser carbine, the laser rifle is connected to the power pack by a heavy duty cable. Power packs are not interchangeable between the two weapons.

Length: 1000mm. Weight of rifle: 6000 grams. Weight of power pack: 4000 grams. Base price: Cr3500 (extra power packs: Cr1500). Cost of recharge, at commercial rates: Cr300.

Accessories: The following special accessories are generally available for the various weapons.

Telescopic Sights (800 grams; Cr200; TL 6): High-quality telescopic sights for attachment to rifles and carbines, for increasing their accuracy, especially at longer ranges. A rifle equipped with such sights has a DM of +4 to hit at long and very long ranges. Note that this DM is in addition to other allowed and required DMs.

Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left untended in a moving truck, a close explosion, or being dropped) on a throw of 7+. When the sights go out of adjustment, the basic throw to hit should not be revealed to the firer, and he or she will always miss.

Electronic Sights (1500 grams; Cr2000; TL 9): Electronic sights with image enhancement and low-light capabilities are available to provide the capability to see and hit in the dark. Electronics are treated like telescopic sights for damage and reliability, and function similarly.

Silencer (600 grams; Cr200; TL 6): Devices are available which will muffle or eliminate the sound of guns firing, but so far they have proven practical only when applied to body pistols, revolvers, and automatic pistols. A silencer attaches to the muzzle of the pistol, increasing its total length, and making it impossible to holster until the silencer is removed. Silencers are not interchangeable; one must be purchased for each specific model of pistol used.

Length: 100 to 300mm. Weight: 500 to 700 grams. Base price: Cr200.

Shoulder Stocks (1000 grams; Cr75; TL 5): It is possible to produce a shoulder stock which may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

Length: 350mm. Weight: 1000 grams. Base price: Cr75.

Folding Stocks (500 grams; Cr100; TL 6): Carbines, rifles, and shotguns can be equipped with folding stocks which make it possible to reduce the overall length of the weapon by 300mm.

Weight: adds 500 grams to weapon. Base price: Cr100.

Armor and Protection: The following items of armor and personal protection are generally available. The weight of personal armor and clothing is assumed to be part of the character's clothing load and is not affected by the weight rule. Only one form of personal armor may be worn, except that *reflec* may always be worn under clothing or armor.

Jack (Cr50; TL 1): A natural or synthetic leather jacket or body suit covering the torso and upper arms and legs. Jack is somewhat better than ordinary clothing or bare skin when defending against blades; it is worthless against guns.

Mesh (Cr150; TL 7): A jacket or body suit made of natural or synthetic leather and reinforced with a lining of flexible metal mesh, similar to chain mail but lighter and stronger. Mesh reduces or stops penetration by blades and has some effectiveness against guns; it is ineffective against laser fire.

Cloth (Cr250; TL 6): A heavy duty body suit tailored from ballistic cloth. The fabric absorbs impact energy, distributing the blow over the body of the target and possibly resulting in bruising. Nevertheless, cloth armor is almost the best and the most versatile available.

Reflec (Cr1500; TL 10): Reflective material on a plastic base can be tailored into a body suit which is ineffective against most weapons, but superior in defense against laser fire. Unlike other forms of armor, *reflec* is worn under other clothing. *Reflec* is expensive and often difficult to obtain.

Ablat (Cr75; TL 9): Ablat is a cheap alternative to *reflec*, and is fashioned from a material which will ablate (vaporize) when hit by laser fire. The ablation of the material carries away the energy of the laser, and protects the wearer. Continued fire against ablat degrades its effectiveness, but the armor is cheap and easily replaceable. Ablat also has some value against other forms of attack.

Vacc Suit (Cr10,000; TL 8): The personal vacuum or space suit is designed to protect the individual from vacuum, tainted, or noxious atmospheres, and some radiation situations. It carries its own communicators, oxygen tanks for six hours, and other basic survival appurtenances. Use of a vacc suit requires vacc suit-0 or better. It acts as cloth armor when subject to attacks. Vacc suits are relatively bulky, and weigh 10 kilograms; the weight counts against personal weight allowances. This weight is reduced 2 kilograms per tech level as the suit gains increasing sophistication. For example, a TL 10 vacc suit weighs 6 kilograms, and a vacc suit at tech level 13+ adds no apparent weight.

Combat Armor (Cr20000; TL 11): Combat armor is a complete vacc-suit-like array of metal and synthetic armor. Combat armor is strictly military and not available on the open market; it is issued to troop units and elite mercenary battalions. Before combat armor can be worn, the user must have vacc suit skill-1 or better.

Battle Dress (Cr200,000; TL 13): The ultimate in individual protection, battle dress is an advanced and

powered version of combat armor. Battle dress enhances the strength and senses of individuals wearing it with variable feedback personal controls, servo-powered limbs, and various kinds of electronic assistance. The individual wearing battle dress is effectively doubled in strength and given unlimited endurance (for lifting, carrying, and fighting purposes; not for wounds received) and receives a DM of +2 for surprise.

SPECIAL CONSIDERATIONS

The following are important to the implementation of weapons use.

Drawing: Weapons are usually carried holstered or slung, unless the characters specifically state the contrary. A character attempting to use a holstered or slung weapon in a combat round is subject to a DM of -3 when drawing. When two or more people draw against each other (assuming surprise is not a factor), each rolls two dice and adds his or her dexterity; the character with the highest modified throw thus achieves surprise for the purpose of a first shot.

Minor Accessories: Holsters, magazine carriers, belts, scabbards, cleaning kits, and other accessories are available for 10% to 20% of the base price of the weapon. They have effectively no weight (being included in the personal clothing group). Shoulder holsters conceal pistols in public; otherwise, pistols are openly carried in hip holsters.

Throwing Blades: Daggers, blades, and bayonets may be thrown at a target at short range. Throw 18+ to hit; DM +dexterity, +blade skill, -target evasion DM if evading. If a hit is achieved, the wound is 2D. Retrieval of thrown blades requires one combat round at close range with the target.

Polearms (spears, pikes, and halberds) may be thrown using the above procedure, but the thrower must have a strength characteristic equal to triple the weight of the thrown weapon.

Throwing a blade or polearm counts as a combat blow or swing.

Full Automatic Fire: Submachineguns and automatic rifles fire four round bursts instead of single shots. The higher ammunition usage results in the hit probabilities shown on the table (auto rifle uses the rifle row on the table when firing single shots). In addition, automatic fire allows rolling to hit twice against the same target. Finally, the group hit rule applies against companions of the target.

Group Hits By Automatic Fire: Regardless of the designated target for automatic fire, non-evading individuals adjacent to the target are also attacked by the burst of automatic fire. No more than two adjacent targets may be attacked, but each is the subject of a roll to hit with a DM of -3, and all other appropriate DMs.

Group Hits By Shotguns: Each shot by a shotgun may attack up to three individuals adjacent to the original target, provided they are in a group (herd, pack, band, etc.) and are each human-sized or smaller. In addition, when firing against flying targets (winged animals, flying vehicles) within range, a DM of +2 is allowed.

Coup De Grace: Any gun or blade may be used to administer a coup de grace and kill an unconscious or unstruggling individual (person or animal) at close range in one combat round if the character using the weapon so

WEAPONS AND EQUIPMENT

Brawling, Animal Weapons, and Blades

<i>Item</i>	<i>Base Weight</i>	<i>Length Overall</i>	<i>Base Price</i>	<i>Required Strength Level</i>	<i>DM</i>	<i>Advantageous Strength Level</i>	<i>DM</i>	<i>Weakened Blow or Swing DM</i>	<i>TL</i>
Hands	—	—	—	6	-2	9	+1	-2	—
Claws	—	—	—	—	—	—	—	—	—
Teeth	—	—	—	—	—	—	—	—	—
Horns	—	—	—	—	—	—	—	—	—
Hooves	—	—	—	—	—	—	—	—	—
Stinger	—	—	—	—	—	—	—	—	—
Thrasher	—	—	—	—	—	—	—	—	—
Club	1000	800	—	5	-4	8	+2	-1	0
Dagger	250*	200	10	4	-2	8	+2	-2	1
Blade	350	300	50	5	-2	9	+1	-2	3
Foil	500	800	100	5	-1	10	+1	-2	3
Cutlass	1250	800	100	7	-2	11	+2	-4	3
Sword	1000	800	150	6	-2	10	+1	-3	1
Broadsword	2500	1200	300	8	-4	12	+2	-4	2
Bayonet	250	(+) 200	10	5	-2	9	+2	-2	3
Spear	2000	3000	10	5	-1	9	+2	-3	0
Halberd	2500	2500	75	6	-2	10	+2	-3	2
Pike	3000	4000	40	7	-3	10	+2	-3	1
Cudgel	1000	1500	10	5	-1	8	+2	-1	0

Guns and Accessories

<i>Item</i>	<i>Base Weight</i>	<i>Ammo Weight</i>	<i>Rds/Clip</i>	<i>Length Overall</i>	<i>Base Price</i>	<i>Ammo Price</i>	<i>Required Dexterity Level</i>	<i>DM</i>	<i>Advantageous Dexterity Level</i>	<i>DM</i>	<i>Maximum Effective Range</i>	<i>TL</i>
Body Pistol	250	50	6	100	500	20	8	-3	11	+1	Medium	7
Automatic Pistol	750	250	15	175	200	10	7	-2	10	-1	Long	5
Revolver	900	100	6	200	150	5	7	-2	9	+1	Long	4
Carbine	3000	125	10	750	200	10	5	-1	9	+1	Very Long	5
Rifle	4000	500	20	1000	200	20	6	-2	8	+1	Very Long	5
Automatic Rifle	5000	500	20	1000	1000	20	7	-2	10	+2	Very Long	6
Shotgun	3750	750	10	1000	150	10	4	-1	9	+1	Very Long	4
Submachinegun	2500	500	30	450	500	20	6	-2	9	+2	Long	5
Laser Carbine	5000	—	—	800	2500	—	6	-3	10	+2	Very Long	8
LC Power Pack	3000	—	50	—	1000	200	—	—	—	—	—	8
Laser Rifle	6000	—	—	1000	3500	—	7	-3	11	+2	Very Long	9
LR Power Pack	4000	—	100	—	1500	300	—	—	—	—	—	9
Telescopic Sights	800	—	—	—	200	—	—	—	—	—	—	6
Electronic Sights	1500	—	—	—	2000	—	—	—	—	—	—	9
Silencer	600	—	—	(+) 200	200	—	—	—	—	—	—	6
Shoulder Stock	1000	—	—	(+) 350	75	—	—	—	—	—	—	5
Folding Stock	500	—	—	(-) 300	100	—	—	—	—	—	—	6

<i>Body Armor</i>	<i>Weight</i>	<i>Price</i>	<i>Description</i>	<i>TL</i>
Nothing	—	—	Standard clothing worn for fashion, comfort, or modesty.	—
Jack	1000*	50	Leather or synthetic jacket/body suit.	1
Mesh	2000*	150	Leather or synthetic body suit reinforced with metal mesh lining.	7
Cloth	2000*	250	Ballistic cloth (bullet-proof) jacket.	6
Reflec	1000*	1500	Reflective material body suit for protection against laser fire.	10
Ablat	2000*	75	Ablative (vaporizing anti-laser) jacket.	9
Vacc Suit	10000*	10000	Personal space suit. Includes communicators, oxygen tanks for six hours, and acts as cloth armor. Requires skill vacc suit-0. Vacc suit weight is reduced 2 kilograms per TL increase (to TL 13, where weight is zero).	8
Combat Armor	6000*	20000	Metal and synthetic array of military-type personal armor. Can be used as personal vacc suit with similar accessories. Requires skill vacc suit-1.	11
Battle Dress	20000*	200000	Acts as combat armor, plus doubled personal strength, unlimited endurance, and DM+2 for surprise. Requires skill vacc suit-1.	13

*Note: Included in the personal clothing allowance and have no apparent weight. Weights in grams; lengths in millimeters.

ENCOUNTERS

The referee should work from (but not necessarily reveal) the following background: What? (or Who?), How Many? Why? How? When? and Where?

SURPRISE

Roll one die for each party and apply DMs. If one roll is 3+ greater than its opponent, the higher roll has surprise.

Allowed Surprise DMs

If any member wears Battle Dress. . . +2
 If any member has leader skill . . . +1
 If any member has tactical skill . . . +1
 If any member has military experience (army or marines) . . . +1
 If any member is in a vehicle . . . -1
 If group has 8 or more people . . . -1
 If group has 10 or more animals . . . -1
 If group consists of pouncer animals . +1

ENCOUNTER RANGE

Roll two dice for initial encounter range. Apply DMs based on terrain type in which the encounter occurs.

Terrain DMs

Clear, Road, Open +3
 Prairie, Plain, Steppes +3
 Rough, Hills, Foothills +2
 Broken, Highlands +2
 Mountain, Alpine +3
 Forest, Woods +1
 Jungle, Rainforest -
 River, Stream, Creek +1
 Swamp, Bog, Marsh -4
 Desert, Dune, Sand Sea +4
 Maritime Surface +2
 Maritime Subsurface -1
 Arctic -4
 Building Interior, Cave -5

Encounter Ranges

Dice	Range
1	Short
2	Close
3	Short
4	Medium
5	Short
6	Medium
7	Medium
8	Long
9	Medium
10	Very Long
11	Long
12	Very Long
13	Very Long

Rolls of greater than 13 equal 13; rolls less than 1 equal 1.

ESCAPE AND AVOIDANCE

Non-player parties which are outnumbered and have surprise avoid on a throw of 7+. Animals flee based on their characteristics and encounter tables.

A party without surprise may escape on 9+; DMs based on range:

Close or short range -1
 Medium range +1
 Long range +2
 Very Long range +3

MORALE

Roll for morale every combat round, once 25% of a party has become unconscious or been killed. Throw 7+ for the group to stand (not flee); DMs allowed:

If military or mercenary unit . . +1
 If any leader skill present . . . +1
 If the leader has tactical skill . . +1
 If casualties (unconscious or dead) exceed 50% -2
 If leader unconscious or dead . . -2 (for 2 combat rounds only; then a new leader takes control.)

WEIGHT LIMITATIONS

Normal Load: May not exceed personal strength in kilograms.

Double Load: Encumbered, but may carry twice personal strength in kilograms. Strength, dexterity, and endurance reduced by -1 each.

Triple Load: Encumbered, but may carry triple personal strength in kilograms. Strength, dexterity, and endurance reduced by -2 each. Individual must be a member of a military unit to carry triple load.

GRAVITATIONAL EFFECTS

World	Normal	Double	Triple
0	200.0%	400.0%	600.0%
1	187.5%	375.0%	562.5%
2	175.0%	350.0%	525.0%
3	162.5%	325.0%	487.5%
4	150.0%	300.0%	450.0%
5	137.5%	275.0%	412.5%
6	125.0%	250.0%	375.0%
7	112.5%	225.0%	337.5%
8	100.0%	200.0%	300.0%
9	87.5%	175.0%	262.5%
A	75.0%	150.0%	225.0%

This table indicates the allowed physical load for an individual character based on the current world and normal or excess load chosen. World size is explained in Worlds.

COVER

Targets are considered under cover if they are behind a solid object which a shot cannot penetrate (such as a wall, rock, or heavy bulkhead). A character who has attacked from a covered position is allowed a defending DM of -4 when attacked. If the individual has not attacked from cover, he or she is not visible at the moment, and may not be attacked.

CONCEALMENT

Targets are considered concealed if they cannot be viewed by an attacker. If fully concealed, a target cannot be attacked.

Partial Concealment: A target may be partially concealed by walls, objects, atmospheric conditions, or darkness.

ZERO GRAVITY

Individuals in zero gravity may lose control; weapons with recoil (all guns but laser carbine and laser rifle) have recoil which may disorient an individual.

Throw 10+ per combat round for loss in control. DM -4 if firing a weapon, 5 if using a handhold, -6 if performing a swing or blow, +2 if dexterity 9+, additional +2 if dexterity 11+. Using a handhold reduces dexterity (for the above DMs, and for advantageous or required dexterity) by -4.

Loss Of Control: Throw 10+ per combat round (after losing control) to regain control. DMs allowed as above, but handholds and weapons may not be used.

DARKNESS

Total darkness restricts engagements to close and short range. Attacks with guns at greater than short range have DM -9.

Partial darkness reduces visibility to medium range; attacks with guns at greater than medium range are subject to DM -6.

Electronic sights eliminate negative DMs due to darkness or poor lighting.

TYPICAL ACTIONS

The following are typical actions allowed in personal combat.

Run. Walk. Close Range. Open Range. Stand. Evade. Shoot. Switch (semi or full auto). Reload. Throw. Draw. Swing. Hit.

WEAPONS AND RANGE MATRIX

Attacker's Weapon	Defender's Armor							Range				Very Long	Wound Inflicted
	Nothing	Jack	Mesh	Cloth	Reflec	Ablat	Combat	Close	Short	Medium	Long		
Hands	+1	-1	-4	-4	0	-1	-6	+2	+1	no	no	no	1D
Claws	+3	0	0	+1	-1	-3	-7	+1	+2	no	no	no	2D
Teeth	+2	+1	-1	0	-2	-4	-7	+2	0	no	no	no	2D
Horns	+2	+1	0	-1	+2	-2	-5	-1	+1	no	no	no	2D
Hooves	+3	+3	+2	+2	+3	+2	-6	-1	+2	no	no	no	2D
Stinger	+4	+3	0	+1	+2	0	-6	+4	+2	no	no	no	3D
Thrasher	+7	+7	+4	+4	+7	+4	0	+5	+1	no	no	no	2D
Club	0	0	-2	-3	0	-2	-7	+1	+2	no	no	no	2D
Dagger	0	-1	-4	-4	0	-2	-7	+1	+2	no	no	no	2D
Blade	+1	0	-4	-4	+1	-3	-5	+1	+1	no	no	no	2D
Foil	+2	0	-4	-3	+2	-2	-8	-1	0	no	no	no	1D
Cutlass	+4	+3	-2	-3	+4	-2	-6	-4	+2	no	no	no	3D
Sword	+3	+3	-3	-3	+3	-2	-6	-2	+1	no	no	no	2D
Broadsword	+5	+5	+1	0	+5	+1	-4	-8	+3	no	no	no	4D
Bayonet	+2	+1	0	-1	+2	-2	-6	-1	+2	no	no	no	3D
Spear	+1	0	-2	-2	-1	-3	-6	-2	+1	no	no	no	2D
Halberd	+4	+3	-2	-3	+4	-2	-5	0	+1	no	no	no	3D
Pike	+1	0	-2	-2	-1	-3	-6	-4	+4	no	no	no	3D
Cudgel	0	0	-2	-3	0	-2	-7	0	0	no	no	no	2D
Body Pistol	0	0	-2	-4	-4	-2	-7	+2	+1	-6	no	no	3D
Automatic Pistol	+1	+1	-1	-3	+1	-1	-5	+1	+2	-4	-6	no	3D
Revolver	+1	+1	-1	-3	+1	-1	-5	+1	+2	-3	-5	no	3D
Carbine	+2	+2	0	-3	+2	-1	-5	-4	+1	-2	-4	-5	3D
Rifle	+3	+3	0	-3	+2	+1	-5	-4	+1	0	-1	-3	3D
Automatic Rifle	+6	+6	+2	-1	+6	+3	-3	-8	0	+2	+1	-2	3D
Shotgun	+5	+5	-1	-3	+5	+2	-5	-8	+1	+3	-6	no	4D
Submachinegun	+5	+5	0	-3	+5	+2	-4	-4	+3	+3	-3	-9	3D
Laser Carbine	+2	+2	+1	+1	-8	-7	-6	-2	+1	+1	+1	0	4D
Laser Rifle	+3	+3	+2	+2	-8	-7	-6	-4	+2	+2	+2	+1	5D
Telescopic Sights	—	—	—	—	—	—	—	—	—	—	+4	+4	—
Electronic Sights	—	—	—	—	—	—	—	—	—	—	+4	+4	—
Shoulder Stock	—	—	—	—	—	—	—	-1	-1	+1	+1	—	—
Folding Stock	—	—	—	—	—	—	—	—	—	-1	-1	-1	—

BASIC THROW TO HIT

8+

A basic throw to hit of 8+ is required for each blow, swing, or shot. Many DMs are possible.

COMBAT PROCEDURE

- Determine facts of the encounter.
 - Which party has surprise?
 - Initial encounter range?
 - Escape or avoidance?
- Begin combat round.
 - Individual movement status.
 - Individual targets and attacks.
 - Attacker's DMs.
 - Defender's DMs.
 - If attack succeeds, determine wounds inflicted at end of the round.
 - Roll for morale if unit has taken 25% casualties.
 - Begin new round (go to 2).
- When combat ends, attend to the wounded and regroup forces.

ALLOWED DIE MODIFIERS

Advantageous strength (with blades).
 Advantageous dexterity (with guns).
 Required strength (with blades).
 Required dexterity (with guns).
 Attacker's weapons skill.
 Defender's blade skill (parrying).
 Armor.
 Range.
 Defender evading.
 Defender under cover.
 Group hits (by shotgun).
 Group hits (automatic fire).
 Weakened blows.
 Drawing weapons.
 Thrown blade.
 Poor vision; darkness.

Referee's Discretion

The referee may indicate (or apply without informing the players) other die modifiers which influence combat.

ATTACKS

Attacks are blows, swings, or shots.
 Blows are inflicted by hands.
 Swings are inflicted by blades.
 Shots are inflicted by guns.

Blows and Swings

Surprise: Full strength and unrestricted while the individual retains surprise.

Combat: Full strength, but limited by individual endurance.

Weakened: Subject to negative DM once combat blows and swings are exhausted, or if selected in order to conserve combat blows and swings.

Special: Allowed in situations where strength is not a factor, such as unconscious or unresisting opponents.

Shots

Combat: Ordinary weapons fire.

Coup de Grace: For unconscious or unresisting targets.

PHYSICAL CHARACTERISTICS

The first three characteristics of the universal personality profile are the physical characteristics:

Strength
Dexterity
Endurance

WOUNDING AND DEATH

Wounds are applied to the physical characteristics, temporarily reducing them for the duration of combat.

Each die rolled for wounds is treated as a group of hits that should not be divided; for example, a 1D result of 5 should be treated as 5 hits to be applied as one group to one of the physical characteristics. Select the first physical characteristic to receive wounds randomly; the wounded player character may select all subsequent physical characteristics to receive wounds.

Critical Hits

The first wound received by a character should be applied in its entirety to one (randomly determined) physical characteristic.

Minor Wounds

Any wound points applied to a character which do not reduce more than one physical characteristic to zero are considered minor wounds. The character is treated as having the reduced characteristics until medical care or recovery has taken place.

Unconsciousness

One characteristic reduced to zero results in unconsciousness for ten minutes. Upon recovery of consciousness, any wounded characteristics are placed midway between their wounded and full levels; round fractions down.

Serious Wound

Two characteristics reduced to zero results in a serious wound and unconsciousness for three hours. Upon recovery of consciousness, any wounded characteristics remain at the wounded level (or at 1, whichever is higher) until proper medical attention or recovery procedures are followed.

Death

Three characteristics reduced to zero results in death for the character.

Medical Care

Minor Wounds: Minor wounds require a medical kit, skill of medical-1, and thirty minutes. Without medical care, recovery requires three days rest.

Serious Wounds: Serious wounds require a medical facility (local hospital or aid station, the sick bay of a ship, etc.), skill of medical-3, and from 5 to 30 days. Without medical care, recovery is not possible.

Recovery: Recovery returns all characteristics to their original level.

Drugs: Medical drug may be used to assist recovery. Medical slow drug may be used to shorten recovery time to about one day.

RANGES

Close: In physical contact; touching.

Short: At sword or polearm point; 1 to 5 meters.

Medium: At pistol range; 6 to 50 meters.

Long: At rifle range; 51 to 250 meters.

Very Long: At extreme range; 251 to 500 meters.

Distant: Beyond normal contact; from 500 to 5000 meters.

Very Distant: Out of sight; from 5 to 50 kilometers.

Regional: 50 to 500 kilometers.

Continental: 500 to 5,000 kilometers.

Planetary: 5,000 to 50,000 kilometers.

Range Bands

<i>Bands</i>	<i>Range</i>
0	Close or Short
1 - 2	Medium
3 - 10	Long
11 - 20	Very Long

Note: On square grids, one square should generally equal 1.5 meters. Other proportional values are also possible.

One range band is approximately 17 squares (at 1.5 meters per square).

Speeds

<i>Speed</i>	<i>Bands</i>	<i>Squares</i>
Stand	0	0
Walking	1	17
Running (double)	2	33
Running (triple)	3	50
Running (quadruple)	4	67

Running at faster than double speed is generally impossible for long periods.

in one combat round if the character using the weapon so states. Ammunition is expended, but no die rolls are necessary. A coup de grace may be administered with hands or brawling weapons using special blows, but die rolls must be made.

Reloading: Technically, guns reload themselves after each shot. However, when the magazine capacity of a gun is exhausted, then the shooter must reload the gun with a fully loaded magazine. Unless otherwise stated, the process of reloading a gun with a full magazine takes one combat round, during which time the shooter is treated as evading.

Revolvers do not use magazines, and so take two combat rounds (one combat round if not simultaneously evading) to reload. Laser carbines and laser rifles do not use cartridges; their power packs must be recharged upon being exhausted. Such a laser weapon may be returned to service by replacing the power pack. Recharging a spent power pack requires approximately an hour at a power source.

Empty magazines are, of course, reusable. Ammunition for such magazines can be purchased for approximately half the price of a full magazine. The tedium of reloading empty magazines requires that it be done at leisure, rather than in combat. The process takes several minutes for each magazine.

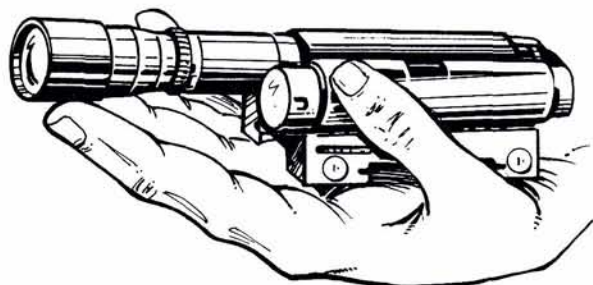
Laser rifles and laser carbines require recharging of their power packs at a power source. When done commercially, there is a cost of Cr200 to Cr300 for the service. Generally, such power packs can be recharged at a ship's power plant at no cost.

Armor: With the exception of reflec, no armor may be worn with another type of armor. If reflec is worn in conjunction with another armor type and the wearer is attacked, the better type of armor provides the DM.

Darkness and Night: Poor lighting conditions may restrict the ability of an individual to see and attack. Total darkness restricts engagements to close and short range. Attacks with guns at greater than short range are subject to DM -9. Partial darkness (moonlit night, distant illumination, or other weak light sources) reduces visibility range to medium, and attacks with guns are subject to DM -6.

Electronic Sights eliminate negative DMs due to darkness or poor lighting.

Cover and Concealment: Cover is any solid object between an attacker and defender capable of protecting the defender from a weapon attack. Concealment is any object that prevents viewing or sighting of the defender. Cover may also be concealment; concealment is not necessarily cover.



An individual under cover cannot be attacked; an individual in concealment cannot be attacked unless the attacker has some reason to shoot into the area.

Individuals who attack from cover become visible and may themselves be attacked; because they retain partial cover they are eligible for a defending DM of -4. Individuals who attack from concealment provide reason to believe they are present, and may be attacked; because they remain partially concealed, they are allowed a defending DM of -1.

Zero Gravity: Virtually all weapons have recoil (except laser carbines and laser rifles) and in a zero-G environment this recoil can disorient or render helpless individuals not trained to compensate for it. When fighting in a zero-G environment, any individual has a chance of losing control of his or her movement/position each combat round. Throw 10+ to avoid losing control. DMs: -4 if firing a weapon. +5 if using a handhold. -6 is performing a swing or blow. +2 if dexterity 9+. Additional +2 if dexterity 11+. Using a handhold reduces dexterity (for the above DMs and for required or advantageous dexterity) by -4.

Individuals who lose control may not fire until they have reoriented themselves and regained control. Roll 10+ in each subsequent combat round; DMs as above except handholds and weapons may not be used.

ANTIQUE EQUIVALENTS

Most of the standard gun weapons available to travellers are based on weapons available in the 1980s. While technology will certainly progress in the centuries that come, it will also remain a fact that one of the surest ways to injure or kill an adversary is to subject him or her to a large dose of kinetic energy; the simplest way to deliver that energy to someone is with bullet impact. The guns noted below are used as the basis for the weapons described, although some changes have been made in weight and power. Individuals interested in the capabilities and parameters of the weapons can use this information as a springboard.

Body Pistol:	Walther PPK .380. OMC Back-up .380.
Automatic Pistol:	S&W Model 59 9mm. Auto-Mag .44 Magnum.
Revolver:	S&W M66 .357 Magnum. Colt Python .357 Magnum.
Carbine:	Ruger Mini-14 5.56mm. Armalite AR-180 5.56mm.
Rifle:	Springfield M14 7.62mm. Belgian FN FAL 7.62mm.
Automatic Rifle:	Rifles in heavy barrel, full-automatic versions.
Shotgun:	Remington M1100 12 guage.
Submachinegun:	UZI 9mm. Sterling L2A1 9mm.

Some weapons such as the laser rifle and laser carbine are not currently available to 1980's technology. Referees may feel free to create other weapons (for example, a laser pistol) to suit the needs and desires of their own Traveller campaigns.

Travellers travel. They move between worlds as well as on and over their surfaces. The concept of space travel is vital to **Traveller**, if only because it allows adventurers to move from place to exotic place in search of new, interesting, rewarding, or important activities.

Space travel between worlds is the most important type of travel undertaken by characters. Space travel can be of two types: interplanetary travel between worlds within a star system, and interstellar travel between star systems. Starships and spacecraft are the carriers of goods, cargos, and passengers; individual passages may be purchased, the ships may be hired or chartered, and for the very rich, ships may be purchased.

Travel has its interests, rewards, and drawbacks. New worlds to be encountered, explored, or avoided are just as far as the next interstellar jump. Situations ranging from commercial ventures, to quests after unknown artifacts, to military expeditions are easily found.

INTERPLANETARY TRAVEL

Worlds orbiting the same star are accessible by interplanetary travel, on ships operated by local entrepreneurs, or with a variety of small craft. But interplanetary travel takes long periods of time; since most stellar systems have only one major world, interplanetary travel is infrequent.

Interplanetary travel takes time. The diagram of a typical interplanetary journey shows the procedure used for moving between worlds in the same star system. The travel formulae can be used to determine time required (if distance and acceleration are known), acceleration required (if distance and time are known), and distance travelled (if time and acceleration are known). All of the formulae use the MKS (meters, kilograms, seconds) unit system, and assume that the ship is undertaking a journey from rest, that it accelerates continuously to the midpoint of the trip, and then decelerates to rest again. In addition, several travel times and travel distances have been pre-calculated for ready reference.

Interplanetary (as opposed to interstellar) travel usually involves the individual's own vessel or a charter. Scheduled service is rarely available.

INTERSTELLAR TRAVEL

Worlds orbiting different stars are reached by interstellar travel, which makes use of the jump drive. Once a starship moves to a safe distance from a world, it may activate its jump drive. Jump drives are rated from 1 to 6: the number of parsecs which can be travelled in one week. Actually, making any jump takes about one week, regardless of the distance travelled. Transit time to 100 diameters from a size 8 world (world sizes are explained in *Worlds*) takes 5 hours at 1G.

Commercial starships usually make two jumps per month. They spend one week in jump, followed by one week in the star system, travelling from the jump point to the local world, refuelling, marketing cargo, finding passengers, leaving the starport, and proceeding to a jump point again. The week in the system usually provides some time for crew recreation and for wandering around the planet.

Non-commercial ships usually follow the same schedule of one week in jump and one week in a system. If haste is

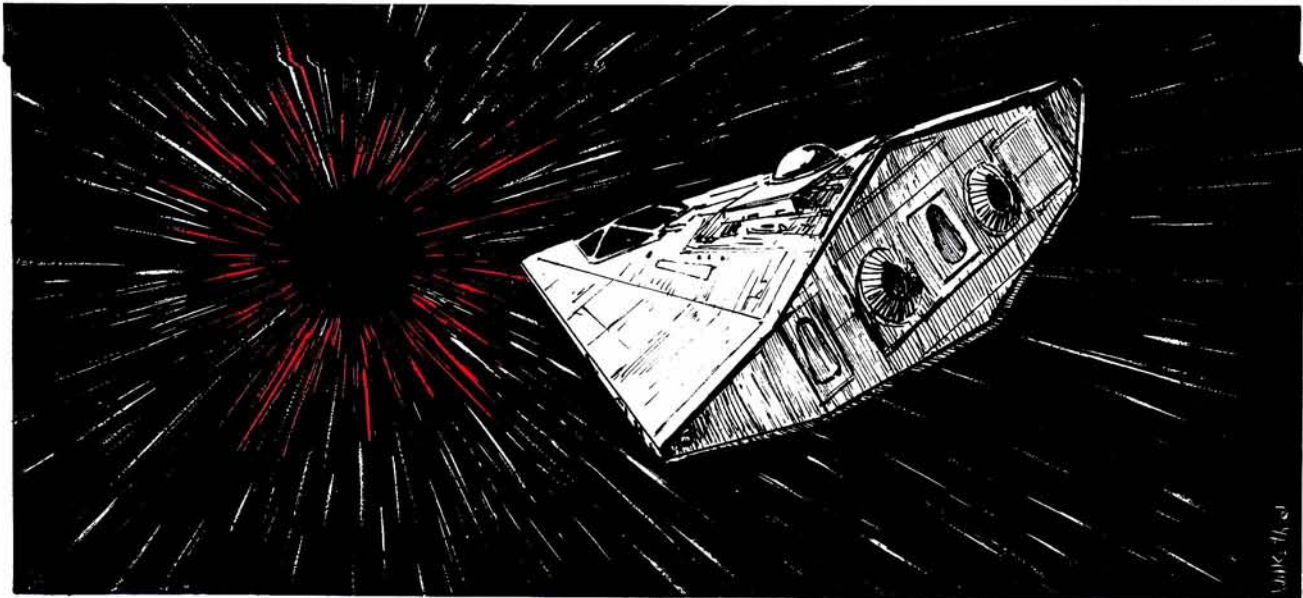
called for, a ship may refuel immediately and re-jump right away. This allows the ship to make one jump per week, but makes no provision for cargo, passengers, or local stops.

Interstellar travel is priced on the basis of accommodations; prices cover a trip from starport to starport, encompassing one jump, regardless of length. There are four types of passage:

High Passage— The best method of travel is called high passage, which involves first class accommodations and cuisine. High passengers have the services of the ship's steward, entertainment, and complete attention to their comfort. There is a baggage allowance of up to 1,000 kilograms. High passage costs Cr10,000.

Middle Passage— In order for starships to fill their staterooms with passengers, middle passage is offered on a standby basis, in the event that not enough high passages are sold. While middle passengers occupy staterooms normally similar to those occupied by high passengers, they do not receive the service or entertainment accorded the higher paying passengers. In addition, the quality of the cuisine is rather low. Baggage totalling 100 kilograms is allowed. Middle passage costs Cr8,000.





A middle passenger may be "bumped" and the state-room taken by a late arriving high passenger; the middle passenger's ticket is returned, but no other compensation is made. (The bumped individual could, of course, then buy a high passage and in turn bump some other middle passenger if the extra cost seemed worth it.)

Working Passage— A starship captain with a crew shortage may hire an individual to fill the vacant position, paying not money but passage in return. Working passage may not continue for more than three jumps, or the individual is considered to have been hired for standard salary. In order to be hired for working passage, the individual must have some expertise in the position for which he or she is hired (jack-of-all-trades may be substituted if necessary). Baggage totalling 1,000 kilograms is allowed. Working passage is without cost to the individual.

Low Passage— Transportation while in cold sleep (suspended animation) is possible at relatively low cost to the passenger. The passenger is placed in a low passage berth before the ship takes off, and travels the entire journey in a state of suspended animation. He does not age, and requires very little life support. Unfortunately, the low passage system involves some intrinsic dangers to the passenger, and he runs some risk of not surviving the voyage. Throw 5+ for each passenger when he is revived after the ship has landed. DMs: Attending medic of expertise of 2 or better, +1; low passenger with an endurance of 6 or less, -1. Failure to achieve the throw to revive results in death for the passenger. Refunds or civil liability if a low passenger fails to survive the trip are not allowed. A player character who travels low passage and survives should keep records on the discrepancy between his chronological age and physical age; a character does not age physically while in low passage. Low passage costs Cr1,000 and includes a baggage allowance of 10 kilograms.

Stowaways— Stowing away on a starship is a fifth form of passage, and the least advisable. Sneaking aboard a starship in order to gain passage to the next world is illegal, if only because it operates to the detriment of the starship owner's economic standing. It is also often a violation of

various customs regulations. A basic throw of 4+ per day applies for discovery of a stowaway. Various elaborate schemes may allow DMs to this throw, based on the referee's judgement. Upon discovery, the stowaway must roll for the starship captain's reaction. Reactions of 6- will result in spacing; the stowaway is forced out the air lock without a vacc suit. Otherwise, reactions are determined by the referee.

LESSER KNOWN ASPECTS OF SPACE TRAVEL

As interstellar travel has developed, the field has developed its own dangers and customs. The following are just a few.

The Low Lottery: It is customary for the captain to contribute Cr10 out of each low passage towards a lottery. Each low passenger guesses the number of low passengers who will survive the trip. If the winner does not himself survive, the captain receives the money. The ship's steward administers the lottery.

Since low passengers are typically without funds (who would travel low if there were any other choice?), the low lottery provides some chance for the individual to have funds upon arrival at the destination.

The Travellers' Aid Society: Individuals who have decided that they wish to pursue a life of travel and adventure may elect to join the Travellers' Aid Society, in order to take advantage of its facilities and passage dividends. Members of the Travellers' Aid Society receive, as a dividend of membership, one high passage every two months. The high passage may be used, retained for later use, or sold for 90% of its cash value.

Membership in the Travellers' Aid Society may be acquired as a mustering out benefit using the benefits table in the navy and marine careers. Membership may also be purchased at a cost of Cr1,000,000. Upon application for membership, the individual is evaluated by a membership committee (throw 4+ to avoid a blackball). Only one application per person is allowed. Membership is for the life of the character, and is not transferable.

Hijacking: Starships can be easy prey for hijackers.

Starship crews maintain a constant guard against hijackers, and the ship's computer can run an anti-hijacking program which denies access to control areas to potential hijackers. Passengers are required to check all weapons (except blades and daggers) into the ship's locker; they are returned at the end of the voyage. Nevertheless, there is a chance of an attempted hijacking, for ransom or to steal the multi-million credit vessel. Roll three dice for 18+ to indicate a hijacking attempt (this throw does not apply if all passengers are player characters). When an attempt occurs, randomly determine the number of hijackers, their identities, characteristics, and weapons, and implement their attempt at some point during the voyage. They will gain complete control of the ship only after defeating all other individuals on the ship. If the anti-hijacking program is functioning, the hijackers will be able to enter the bridge (gaining access to the controls) only on a throw of 5-.

The results of hijacking range from release of passengers without harm through marooning on uninhabited worlds to spacing and death.

Skipping: Most starships are purchased on credit, and the monthly payments required against the multi-million credit debt are staggering. The owner or captain may decide to steal the ship himself instead of remaining under that load. Passengers have no way themselves of determining if a specific ship is in such a status. Throw 12+ to determine that a commercial ship is of this type. Ships which have skipped are subject to repossession attempts if detected by the authorities. Such attempts may range from the formal service of papers through legal injunctions to armed boarding parties. On each world landing, throw 12+ to avoid a repossession attempt; apply a DM of +1 per 5 parsecs distance from the ship's home planet, to a maximum of +9. If the ship has called on the same world twice within the last two months, apply a DM of -2.

Piracy: A starship may be attacked by pirates while entering or leaving a system. Similar encounters may involve customs agents or military vessels, including blockades. The ship encounter table later in this book indicates the procedure.

Gas Giants: Most star systems include in their family of planets one or more gas giants — large worlds with hydrogen or methane atmospheres. These gas giants are a valuable source of fuel for starships.

In order to refuel from a gas giant, a ship must move into orbit around it, and then dive deep into its atmosphere with open fuel scoops. The procedure (called skimming) takes approximately eight hours, and results in fuel tanks filled with unrefined fuel.

Ocean Refuelling: Ships can refuel from the water oceans of any world with a non-zero hydrographic percentage. The process calls for the ship to land in or near an ocean and then fill its tanks from the local water supply. It takes approximately four hours and results in fuel tanks filled with unrefined fuel.

STARSHIP MALFUNCTIONS

A starship can malfunction. The two major malfunctions are drive failure and misjump. The primary influencing factors are unrefined fuel and lack of maintenance.

Refined fuel is available at starports at about Cr500 per ton; unrefined fuel is available at starports for Cr100 per ton, or can be skimmed from gas giants for free. In addition, water can be taken from oceans or lakes (if there are any on the world) and used as unrefined fuel. Military and quasi-military starships often use unrefined fuel because it is more available, and because their drives are specially built to use it. Commercial ships sometimes use unrefined fuel because it is cheaper.

Starships require continuing maintenance as they operate, and an annual maintenance overhaul to keep them in top running order. Ships which are undercrewed and do not carry enough dedicated or full-time skilled engineers, and those which avoid or delay their annual maintenance, run the risk of malfunction.

Drive Failure: Each week, throw 13+ for drive failure; apply the following DMs: +1 if using unrefined fuel (and not equipped to do so), +1 per engineer missing from the crew list, +1 per week past annual maintenance overhaul date. If a malfunction occurs, then throw 7+ for each drive in use (jump, maneuver, power plant) to determine which actually fail (if any). Failed drives cease operation completely; maneuver drives will no longer thrust, jump drives will fail and indicate that they cannot support jump, and power plants stop delivering power. Batteries will provide life support and basic lighting for 1D days. Throw 10+ per day spent attempting repairs to fix them temporarily, with DM +engineering skill of attending engineers. More complete repairs must be made at a starport by qualified personnel.

Misjump: Each time the ship engages in a jump, throw 13+ for a misjump. Apply the following DMs: +1 if using unrefined fuel (and not equipped to do so), +5 if within 100 planetary diameters of a world, +15 if within 10 planetary diameters of a world. If the result is 16+, then the ship is destroyed.

A misjump is an unpredictable random jump. Throw one die to determine the number of dice thrown (1 to 6); throw that number of dice to determine the distance of the misjump in hexes. Then throw one die to determine the direction of the misjump (one of the six directions possible on the hex grid). Finally, throw one die to determine the number of weeks spent in jump space before the ship re-emerges at its new location.

Upon emerging from misjump, the challenge of determining position and of travelling to an inhabited world becomes paramount.



Starship Economics

The operation of starships in interstellar commerce requires an understanding of the economics which governs trade between the stars. Prices and returns on effort and investment are controlled by the supply and demand which exists in the commercial system. Because starships are so expensive, many of the prices in this section are expressed in megacredits (abbreviated MCr); a megacredit is one million credits.

STARSHIP PURCHASE

Bank financing is available to qualified individuals for the purchase of commercial starships. After a down payment of 20% of the cash price of the starship is made, the shipyard will begin construction of a specific vessel. Upon completion, the vessel is delivered to the buyer, with the bank paying off the purchase price to the shipyard. Because the bank now holds title to the ship, the price must be paid off in a series of monthly payments to it. Standard terms involve the payment of 1/240th of the cash price each month for 480 months. In effect, interest and bank financing cost a simple 120% of the final cost of the ship, and the total financed price equals 220% of the cash purchase price, paid off over a period of 40 years.

In addition, the bank will insist that the purchaser submit an economic plan detailing the projected activity which will guarantee that monthly payments are made. Unless a character has some form of guaranteed income (perhaps large rents from some property he owns), this condition will generally rule out purchases (at least financed purchases) of yachts, military vessels, or exploratory vessels.

Subsidies: The government may subsidize larger commercial vessels (built on type 600 hulls or larger), primarily to assure consistent service to specific worlds. These subsidized merchants are generally assigned a specific route connecting from 2 to 12 worlds of varying characteristics.

The route will generally be determined before a subsidized merchant is purchased, to allow tailored design features as may be necessary. When a subsidized merchant is ordered, the character himself must make the 20% down payment, with the government assuming responsibility for the payments upon delivery, and taking 50% of the gross receipts of the ship while in service. The character is responsible for all expenses and costs of operation.

Subsidized merchants are also subject to mobilization (and use as auxiliaries) in the event of emergency or hostilities. At the end of 40 years, the vessel is completely paid off, and full title passes to the character, but the vessel remains subject to mobilization in case of government need.

STARSHIP EXPENSES

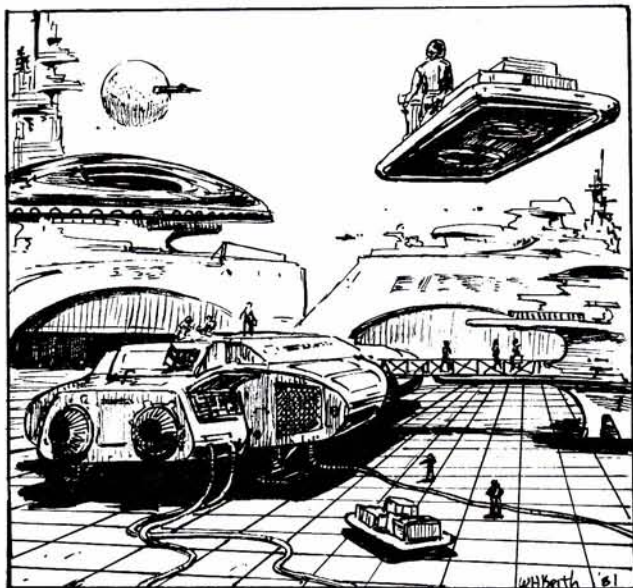
There are five basic expenses (in addition to the bank payment, if necessary) associated with starship operation:

1. **Fuel.** Starship fuel costs Cr500 per ton (refined) or Cr100 per ton (unrefined), at most starports. Fuel consumption is based on formulae related to the size of the starship power plant and the jump drive.

2. **Life Support.** Each occupied stateroom on a starship involves an overhead cost of Cr2000 per trip (two weeks) made. Each occupied low passage berth involves an overhead cost of Cr100 per usage. There is a normal limit of one person per stateroom, travelling couples or groups usually taking adjoining staterooms. Military vessels or chartered ships may be used with a double occupancy system (two persons per stateroom), but this requires twice the normal cost.

3. **Routine Maintenance.** Annually, a starship should be given a complete overhaul in order to insure that it is kept in good working order. Such maintenance costs 0.1% (1/1000th) of the cash price of the ship, and requires two weeks at a class A or B starport. The owner must make provision for payment of the maintenance fee when it comes due. Crew members generally take their vacations at this time, but must still be paid. The ship owners must make provision for the expected loss of revenue while the ship is out of service.

4. **Crew Salaries.** Crew members must be paid monthly. Non-player characters must be paid using the standard crew salary schedule (with suitable modifications for expertise or seniority, generally +10% for each level of expertise above level 1). Player characters may bargain for better pay rates, or they may elect to accept worse. In addition, player characters may participate with the owner-captain and accept shares in the proceeds of the ship's activities.



Characters who take working passage are not paid, receiving passage, room, and board in lieu of salary (but continuous working passage for more than three trips results in automatic hiring and receipt of salary). The starship captain is usually the pilot or navigator, and serves as owner-aboard, drawing his pay from the profits. Not all crew positions are required on all ships, and some ships will have more than one person performing the same function. For example, a large liner may have more than one steward.

5. Berthing Costs. Landing fees, handling costs, facilities use charges, and other starport fees are a common practice, and such costs must be paid as they occur. The average cost is Cr100 to land and remain for up to six days; thereafter, a Cr100 per day fee is imposed for each additional day spent in port. In some locations this fee will be higher, while at others local government subsidies will lower or eliminate it.

REVENUE

Ships generate revenue from cargo, passengers, and mail.

Cargo: Starships may inquire at a starport about the number, sizes, and destinations of cargos awaiting transportation. The referee should determine all worlds accessible to the starship (depending on jump number), and roll for each such world on the cargo table. Then he should roll to determine the number of major, minor, and incidental cargos available on the world of origin; modifiers take into account the world of destination. After rolling for the number of cargos, roll one die for each cargo to determine its size. Multiply the die roll for major cargos by 10, minor cargos by 5, and incidental cargos by 1 to determine the number of tons in each. For example, if a ship is on a population 6 world, going to a population 3 world with a tech level 3 less than the current world, the referee rolls one die for major cargos; he rolls a 4 (+2 from the table, -4 for the low population of the destination, +3 for the tech level difference), giving five major cargos. He then rolls one die for each cargo and multiplies each result by 10 to determine their individual tonnages. Each cargo is a distinct shipment and cannot be subdivided, but the ship may accept or reject specific cargos based on the best fit within the cargo hold. All cargos are carried at Cr1,000 per ton. Starship owners may purchase goods locally and ship them at their own expense, speculating that they can later sell at a profit.

Passengers: After a starship has accepted cargo for a specific destination, passengers will present themselves for transport to that destination. The passenger table is used to determine the number of passengers desiring passage to the announced world based on the origin world's population and on the destination world's population and travel zone status. Roll the dice specified (3D-1D, for example, indicates that three dice are rolled, and the result of another one die roll is then subtracted). Apply any indicated DMs.

Passengers will pay the standard fare for the class of transportation they choose: Cr10,000 for high passage, Cr8,000 for middle passage, and Cr1,000 for low passage. Passage is always sold on the basis of transport to the announced destination, rather than on jump distance.

Differences in starship jump drive capacity have no specific effect on passage prices. A jump-3 starship charges the same passage price as a jump-1 starship. The difference

is that a jump-3 ship can reach a destination in one jump, while the jump-1 ship would take three separate jumps (through two intermediate destinations, and requiring three separate tickets) to reach it. Higher jump numbers also may make otherwise inaccessible destinations within reach. But for two ships of differing jump numbers going to the same destination in one jump, each would charge the same cargo or passage price.

Mail and Incidentals: Subsidized merchants may receive mail delivery contracts, usually as an adjunct to their established routes. Five tons of ship cargo capacity must be committed to postal duty on a full time basis, the ship must be armed, and a gunner must be a part of the crew. The starship is paid Cr25,000 (Cr5,000 per ton of postal cargo area) for each trip made, regardless of the actual mail tonnage carried. Such tonnage will not exceed 5 tons per trip.

Other ships may be approached to deliver private messages, at times through the ship's owner or captain, and at times clandestinely through a crew member. Private mail is usually intended for delivery to a specific point (such as the Travellers' Aid Society building, or a tavern keeper), and is generally accompanied by a Cr20 to Cr120 honorarium. Throw 9+ for a private message to be awaiting transmittal, and determine randomly which crew member is approached to carry it. Serving as a carrier for private mail also serves as an introduction to the recipient as a dependable, trustworthy person.

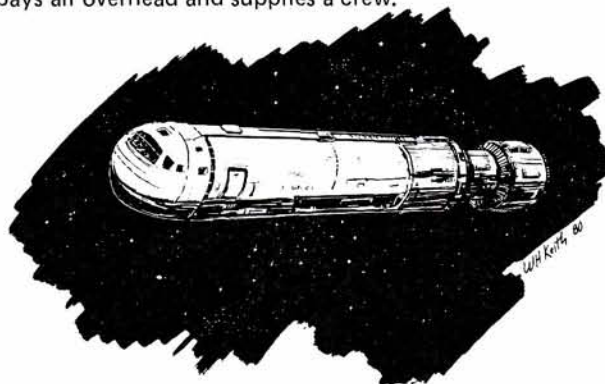
TRADE CUSTOMS

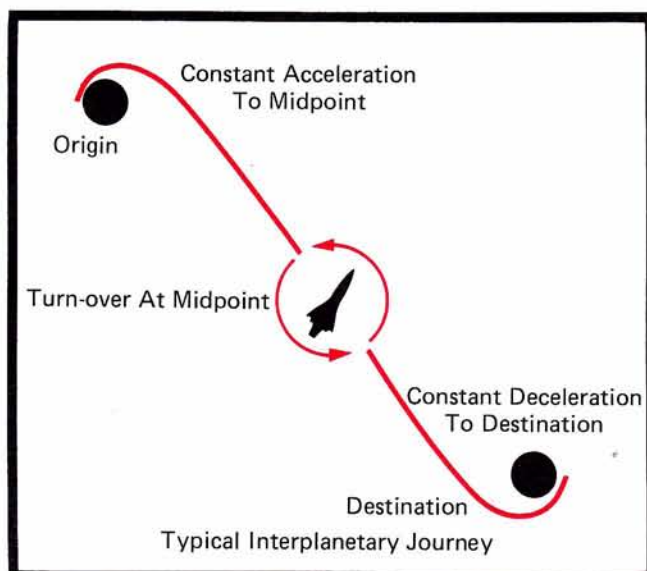
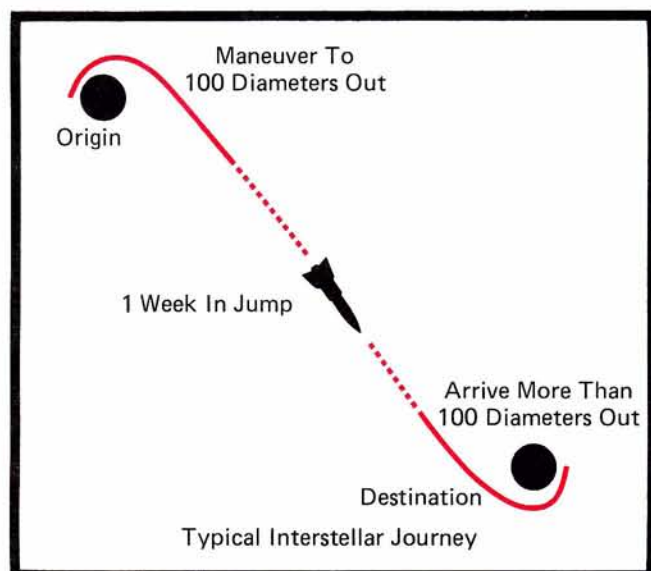
The following are standard procedures in interstellar commerce.

Delivery: Goods taken on in orbit are delivered when placed in orbit around the destination. Goods loaded on a planetary surface are delivered when off-loaded on the surface of the destination. This custom applies to cargo, passengers, and mail.

Shuttle Service: At any location with a class A, B, or C starport, shuttles routinely operate between orbit and world surface. Typical shuttle fares are Cr10 per ton of cargo and Cr20 to Cr120 per passenger.

Charters: Non-starships charter for Cr1 per ton per hour, usually with a 12-hour minimum. Charter price for a starship is computed based on its revenue generating capacity. Starships are chartered in 2-week blocks; the charge is Cr900 per ton of cargo hold plus Cr9,000 per high passage berth and Cr900 per low passage berth. The owner pays all overhead and supplies a crew.





The three travel formulae assume constant acceleration to midpoint, turnaround, and constant deceleration to arrive at the destination at rest, as shown in the diagram above. There are three variables; if any two are known, the third can be determined using one of the formulae at right. The variables are time (T) in seconds, distance (D) in meters, and acceleration (A) in meters/second². Other units must be converted to these three before using the formulae. For example, suppose a player, using the units in the miniatures rules described later in this book, wishes to determine how long it would take (in 1000-second turns) to travel 3 scale meters (or 300,000 kilometers — each millimeter equals 100 kilometers) at 1 G. To get meters from kilometers he must multiply by 1,000 (300,000 km=300,000,000 meters); to get meters/second² from Gs he must multiply by 10 (1G=10 meters/second²). The formula is then: $T(\text{in seconds}) = 2\sqrt{(300,000,000/10)}$, or 10,954. To translate into 1000-second turns, he divides by 1,000 to get about 11 turns.

TRAVEL FORMULAE

$$T = 2\sqrt{D/A}$$

$$D = AT^2/4$$

$$A = 4D/T^2$$

TYPICAL TRAVEL TIMES

Kilometers	Acceleration						Typical Use for Distance
	1-G	2-G	3-G	4-G	5-G	6-G	
1,000	633s	447s	365s	316s	283s	258s	Safe jump distance from planetoid.
10,000	2000s	1414s	1155s	1000s	894s	816s	Typical distance world surface to orbit.
100,000	105m	74m	61m	53m	47m	42m	
160,000	133m	94m	76m	66m	59m	54m	Safe jump distance from size 1 world.
320,000	188m	133m	108m	94m	84m	76m	Safe jump distance from size 2 world.
480,000	230m	163m	133m	115m	103m	94m	Safe jump distance from size 3 world.
640,000	264m	188m	153m	133m	119m	108m	Safe jump distance from size 4 world.
800,000	316m	210m	172m	149m	133m	121m	Safe jump distance from size 5 world.
960,000	324m	230m	188m	163m	146m	133m	Safe jump distance from size 6 world.
1,000,000	333m	236m	192m	167m	149m	136m	
1,120,000	348m	246m	203m	176m	157m	144m	Safe jump distance from size 7 world.
1,280,000	372m	264m	217m	188m	168m	153m	Safe jump distance from size 8 world.
1,440,000	396m	282m	230m	200m	178m	163m	Safe jump distance from size 9 world.
1,600,000	420m	294m	240m	210m	188m	172m	Safe jump distance from size A world.
5,000,000	12.4h	8.7h	7.1h	6.2h	5.5h	5.0h	Safe jump distance from small gas giant.
10,000,000	17.6h	12.4h	10.1h	8.8h	7.9h	7.2h	Safe jump distance from large gas giant.
45,000,000	37.3h	26.4h	21.5h	18.6h	16.7h	15.2h	Typical distance to close neighbor world.
100,000,000	55.6h	39.3h	32.1h	27.8h	24.8h	22.3h	
255,000,000	88.7h	62.7h	51.2h	44.4h	39.7h	36.2h	Typical distance to far neighbor world.
600,000,000	136.1h	96.2h	78.6h	68.0h	60.9h	55.6h	Typical distance to close gas giant.
900,000,000	166.7h	117.9h	96.2h	83.4h	74.5h	68.0h	Typical distance to far gas giant.
1,000,000,000	7.3d	5.2d	4.2d	3.7d	3.3d	2.9d	

Times are expressed in the most convenient terms: s=seconds, m=minutes, h=hours, d=days.

SHIP EXPENSES

Bank Payment: Equal to 1/240th of cash price for ship. Payable monthly. Required only if ship is being purchased with installment payments.

Fuel: Cr100 per ton for unrefined fuel; Cr500 per ton for refined fuel. Fuel may be purchased at starports. Free from gas giant skim or dipping from oceans.

Life Support: Cr2000 per crew member, high, or middle passenger per trip (two weeks). Cr100 per low passenger.

Maintenance: One-tenth of one percent (0.1%) of cash price of ship per year, for annual overhaul.

Salaries: As indicated on the crew salaries table.

Berthing Costs: Approximately Cr100 to land and remain six days. Cr100 per day for each additional day.

CREW SALARIES

Position	Minimum Skill Level	Monthly Salary
Pilot	Pilot-1	Cr6,000
Navigator	Navigator-1	Cr5,000
Engineer	Engineer-1	Cr4,000
Steward	Steward-0	Cr3,000
Medic	Medic-1	Cr2,000
Gunner	Gunner-1	Cr1,000

Crew members who have skill levels greater than that shown are generally paid an additional 10% per skill level greater than 1.

Working Passage: Maximum three jumps at no salary but room and board. Must have requisite skill for position.

TYPICAL DISTANCES

World Surface to Orbit	10,000 km
Satellite	400,000 km
Close Neighbor World	45,000,000 km
Far Neighbor World	255,000,000 km
Close Gas Giant	600,000,000 km
Far Gas Giant	900,000,000 km

PASSENGERS

World Pop Digit	Available at World of Origin		
	High	Middle	Low
0	—	—	—
1	—	1D-2	2D-6
2	1D-1D	1D	2D
3	2D-2D	2D-1D	2D
4	2D-1D	2D-1D	3D-1D
5	2D-1D	3D-2D	3D-1D
6	3D-2D	3D-2D	3D
7	3D-2D	3D-1D	3D
8	3D-1D	3D-1D	4D
9	3D-1D	3D	5D
A	3D	4D	6D

DMs for destination world:

If population 4-, -3.

If population 8+, +3.

If Red Zone, -12; no middle or low.

If Amber Zone, -6.

Tech Level: add (or subtract) difference between origin and destination.

SHIP REVENUES

Per High Passage	Cr10,000
Per Middle Passage	Cr8,000
Per Low Passage	Cr1,000
Per Cargo Ton	Cr1,000
Mail (if fitted)	Cr25,000

MALFUNCTIONS

Drive Failure: Throw 13+ per week of operation, with the following DMs.
Using unrefined fuel +1¹
Per missing required engineer +1
Per month past annual maintenance date, if not performed +1

Misjump: Throw 13+ each time a ship jumps, with the following DMs.
Within 100 diameters of world +5
Within 10 diameters of world +10
Using unrefined fuel +1
If naval ship -1
If scout ship -2

If result is 16+, ship is destroyed.

If result is 13+, ship has misjumped.

CARGO

World Pop Digit	Available at World of Origin		
	Major	Minor	Incidental
0	—	—	—
1	1D-4	1D-4	—
2	1D-2	1D-1	—
3	1D-1	1D	—
4	1D	1D+1	—
5	1D+1	1D+2	—
6	1D+2	1D+3	1D-3
7	1D+3	1D+4	1D-3
8	1D+4	1D+5	1D-2
9	1D+5	1D+6	1D-2
A	1D+6	1D+7	1D

DMs for destination world:

If population 4-, -4.

If population 8+, +1.

If Red Zone, no cargo.

If Amber Zone, no major cargo.

Tech Level: add (or subtract) difference between origin and destination.

TYPICAL ACTIVITIES

- I. Arrive in star system.
 - A. Scan area for potential danger, problems, and other data.
 - B. Set course insystem.
 - C. Possible ship encounter.
- II. Local gas giant.
 - A. Achieve orbit.
 - B. Refuel.
 - C. Set course to major world or outsystem.
- III. Local major world.
 - A. Achieve orbit.
 - B. Proceed to orbital starport (unstreamlined ships) or surface starport (streamlined ships).
 - C. Arrival onplanet.
 1. Unload high passengers.
 2. Unload mail.
 3. Unload middle passengers.
 4. Unload cargo.
 5. Unload low passengers.
 6. Conclude low lottery.
 - D. Refit and maintenance.
 1. Refuel from starport.
 2. Renew ship life support.
 - E. Commodity activity.
 1. Sell speculative cargo.
 2. Buy speculative cargo.
 - F. Ship business.
 1. Pay berthing costs.
 2. Pay bank payment.
 3. Pay maintenance fund.
 4. Pay crew salaries.
 - G. Miscellaneous activity.
 1. Patron encounters.
 2. Planetary exploration.
 3. Local areas of interest.
 4. Hire new crew members.
 - H. Prepare for departure.
 1. Load cargo.
 2. Load low passengers.
 3. Load middle passengers.
 4. Load high passengers.
 5. Load mail.
 6. Collect income for all aspects of current trip.
- IV. Departure.
 - A. Lift-off.
 - B. Achieve orbit.
 - C. Set course outsystem.
 - D. Possible ship encounter.
 - E. Jump.

Note: This list is primarily of interest to merchants. Not all events on this list are explained in this chapter on travelling. Other relevant chapters include Worlds, Encounters, and Trade and Commerce.

Ship Design and Construction

Space ships are constructed and sold at shipyards throughout the galaxy. Any class A starport has a shipyard which can build any kind of ship, including starships with jump drives; any class B starport can build small craft and ships which do not have jump drives. Starports are explained under Worlds. The military procures vessels through these shipyards, corporations buy their commercial vessels from them, and private individuals can purchase ships that they have designed through them as well. The major restriction on the purchase of ships is money.

Definitions: The words vessel, ship, starship, non-starship, and small craft are used with special significance when referring to space travel. A vessel is any interplanetary or interstellar vehicle. A ship is any vessel of 100 tons or more. A starship is a ship which has jump drives and can travel on interstellar voyages. A non-starship is a ship without jump drives. A small craft is any vessel under 100 tons; all small craft are incapable of jump.

SHIP DESIGN

Most vessels are constructed from standard design plans which use time-tested designs and combinations of features. Shipyards work from these plans which cover every detail of construction and assembly.

Naval Architecture: Small design corporations can produce design plans for any vessel type once given the details of what is desired. The design procedure is followed to determine what is available and allowed, and the results are presented to the naval architect firm. They produce a detailed set of design plans in about four weeks for a price of 1% of the final ship cost; they can be hurried to finish the job in two weeks if paid 1.5%. Once the design plans are received, the shipyard may be commissioned to produce the vessel desired.

Standard Designs: There are a number of standard design plans available; they have been in use for a long time, and are available for a nominal fee (Cr100 for the set). Standard starship plans available are: 100-ton scout/courier, 200-ton free trader, 200-ton yacht, 400-ton subsidized merchant, 600-ton subsidized liner, 800-ton mercenary cruiser, and 400-ton patrol cruiser. Standard plans are also available for the following small craft: 20-ton launch, 30-ton ship's

boat, 30-ton slow boat, 40-ton pinnacle, 40-ton slow pinnacle, 50-ton modular cutter, 95-ton shuttle, and 10-ton fighter. Other standard plans may be available at various localities.

Standard designs are easier to produce; their prices reflect a 10% reduction in normal pricing. The details of the standard designs are shown at the end of this chapter. Standard design vessels are often available used (10 to 40 years old) at reductions in price ranging from 10% to 40%, as indicated by the referee.

Construction Times: Time required for building any vessel depends primarily on the hull. The drive potential table indicates construction time for each tonnage of hull; any hull over the indicated tonnage requires the next higher construction time. The standard hulls table gives shorter construction times for those hulls; they are more familiar to the shipyard and easier to build.

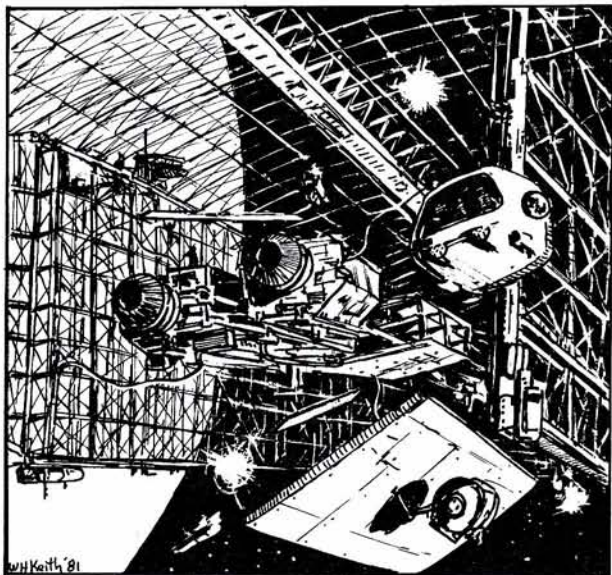
Costs and Payments: A shipyard will insist upon a 20% down payment with the order for the vessel, as well as a demonstration that proper financing is available to cover the balance when due.

REQUIRED STARSHIP COMPONENTS

Starships are constructed on the foundation of a hull, into which are fitted the drives and power plants, the fuel tankage, life support equipment, computers, controls, armaments, and other fittings that adapt it to its intended function. The total tonnage of the installed fittings cannot exceed the tonnage of the hull.

The Hull: Hulls are identified by their mass displacements, expressed in tons. As a rough guide, one ton equals 14 cubic meters (the volume of one ton of liquid hydrogen). When hulls are constructed, they are divided into an engineering section for the drives and the main compartment for everything else. All drives and power plants must be located in the engineering section, and only drives and power plants may be placed in that section. All other ship components, including fuel, cargo hold, living space, and computer, must be located in the main compartment.

The standard hulls table shows six standard hulls which are available at reduced prices and construction times. Any other hull must be produced on a custom basis at a cost of MCr0.1 per ton; minimum price MCr20. Construction (or



build) times for custom hulls are shown in the last column of the drive potential table.

Hulls vary in their requirements for drives and power plants based on tonnage. Any specific drive will be less efficient as the tonnage it must drive increases. The drive potential table lists 24 standard drive types, identified by the letters A through Z (omitting I and O to avoid confusion with the numerals 1 and 0). Also listed are various tonnage levels for hulls; any tonnage which exceeds a listed level should be read at the next higher level. Correlating hull size with drive letter indicates drive potential. For maneuver drives, this potential is the Gs of acceleration available. For jump drives, the potential is the jump number (Jn), or jump range in parsecs. For power plants, it is power plant rating (Pn). For example, a 200-ton hull equipped with maneuver drive-A can produce 1-G acceleration; an 800-ton hull equipped with jump drive-D can produce jump-2.

The Engineering Section: Drives are installed in the engineering section. A non-starship must have a maneuver drive and a power plant. A starship must have a jump drive and a power plant. A maneuver drive may also be installed, a power plant must be installed. In all cases, the power plant must equal or exceed the higher of the maneuver drive and the jump drive letter. The drives used are described in price and mass in the drives and power plants table; their tonnage may not exceed the tonnage of the engineering section of the vessel.

It is important to note from the drive potential table that some drives will not produce results in some tonnages of hulls, as indicated by a dash instead of a number on the table; the drives and power plants table also indicates that some drives will not fit into some hulls. During the design process, it may also turn out that after fitting a set of drives and power plant into a hull, there may be insufficient tonnage remaining for fuel, basic controls or life support.

Drive ratings greater than six are not available from the equipment shown here.

The Main Compartment: The ship's main compartment contains all non-drive features of the ship, including the bridge, computer, staterooms, low passage berths, cargo hold, fuel tanks, armament, and other items.

A. The Bridge: All ships must allocate 2% of their tonnage (minimum 20 tons) to basic controls, communications equipment, avionics, scanners, detectors, sensors, and other equipment for proper operation of the ship. The cost for this bridge is MCr0.5 per 100 tons of ship.

The basic controls do not include the ship's computer, which is installed adjacent to the bridge. The computer is identified by its model number; the computer table indicates price, tonnage, capacity, and tech level available. In general, larger computers are better in combat situations. In addition, the model number indicates the highest level of jump possible for a ship. For example, a ship must have a Model/4 computer before it can perform jump-4, in addition to the jump drive rating installed.

CPU refers to the computer's central processing unit, indicating the capacity to process programs; storage refers to the additional capacity available to hold programs in readiness for processing. Programs themselves are classified



by size, using a point indicator to specify how much of the CPU or storage capacity is required for that program to fit into the computer. The number (and exact types) of which are on hand, in storage, or in the CPU is important in the operation of the starship, especially in combat.

Computer software (programs) must normally be acquired separately by purchase (or they may be written by a character who has computer expertise). Each computer model as originally furnished includes a basic software package of commonly used programs. This package is selected by the purchaser from the list of available programs; the computer model (1 through 7) indicates the credit value which may be selected. For example, Model/1 allows a package with a value of MCr1, while Model/6 allows a value of MCr6.

There are two bis (meaning second, or improved) models of computer available. Each is treated as the next higher level for jump support, but as the next lower level for software selection. Thus, the Model/1bis can support jump-2, but has a software package value of only MCr1.

Fire control equipment is required if weaponry is to be installed. Each installed turret requires one ton of displacement committed for fire control equipment.

Original design plans for ships often include reserve tonnage for later use in installing fire control equipment, or for upgrading computers.

B. Staterooms: Quarters for the crew and passengers are provided in the form of staterooms containing sleeping and living facilities. Each stateroom is sufficient for one person, displaces 4 tons, and costs Cr500,000. In some starships (especially exploratory vessels, military ships, and privately-owned starships), double occupancy is allowed in staterooms. No stateroom can contain more than two persons however, as it would strain the ship's life support equipment. A commercial ship must have one stateroom for each member of the crew.

C. Low Passage Berths: Facilities for carrying passengers installed in a ship. One low passage berth carries one low passenger, costs Cr50,000, and displaces one-half ton. Low

Ship Design and Construction

STANDARD HULLS

Tons	Main	Drives	MCr	Time
100	85	15	2	9
200	185	15	8	11
400	350	50	16	14
600	515	85	48	22
800	635	165	80	25
1000	835	165	100	27

The hulls listed above are standard sizes, readily available at the reduced prices or times shown. All others must be custom produced at MCr0.1 per ton.

COMPUTERS

Model	MCr	Tons	Capacity	TL
1	2	1	2/ 4	5
1bis	4	1	4/ 0	6
2	9	2	3/ 6	7
2bis	18	2	6/ 0	8
3	18	3	5/ 9	9
4	30	4	8/15	A
5	45	5	12/25	B
6	55	7	15/35	C
7	80	9	20/50	D

Computer cost is indicated in MCr; tonnage required in tons. TL is the minimum tech level required to produce the equipment. Capacity is used to determine program holding capacity. Model number also indicates the largest jump which the computer can control.

DRIVES AND POWER PLANTS

Jump Drive		Maneuver Drive		Power Plant	
Mass	MCr	Mass	MCr	Mass	MCr
A	10	10	1	4	8
B	15	20	3	8	16
C	20	30	5	12	24
D	25	40	7	16	32
E	30	50	9	20	40
F	35	60	11	24	48
G	40	70	13	28	56
H	45	80	15	32	64
J	50	90	17	36	72
K	55	100	19	40	80
L	60	110	21	44	88
M	65	120	23	48	96
N	70	130	25	52	104
P	75	140	27	56	112
Q	80	150	29	60	120
R	85	160	31	64	128
S	90	170	33	68	136
T	95	180	35	72	144
U	100	190	37	76	152
V	105	200	39	80	160
W	110	210	41	84	168
X	115	220	43	88	176
Y	120	230	45	92	184
Z	125	240	47	96	192

For each drive letter, this table indicates price in MCr and tonnage required for jump, maneuver and power plant.

DRIVE POTENTIAL

Hull Tons	Jump Drive, Maneuver Drive, or Power Plant Type																				Build Time
100	2	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
200	1	2	3	4	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
400	-	1	1	2	2	3	3	4	4	5	5	6	6	-	-	-	-	-	-	-	16
600	-	-	1	1	1	2	2	2	3	3	3	4	4	4	5	5	6	6	6	-	24
800	-	-	-	1	1	1	1	2	2	2	2	3	3	3	4	4	4	5	5	6	28
1000	-	-	-	-	1	1	1	1	1	2	2	2	2	3	3	3	3	4	5	6	30
2000	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	2	2	3	32
3000	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	34
4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	35
5000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	36

Comparing hull tonnage to drive letter indicates performance of that drive in that sized hull. Use next larger size hull for intermediate tonnages. Performance is Gs acceleration for maneuver drives, jump number for jump drives, and power plant number for power plant.

WEAPONS AND MOUNTS

Type	Cost (Cr)	Fitting Description	Tons	Cost (in Cr)
Hardpoint	100,000	Stateroom	4.0	500,000
Single Turret	200,000	Low Berth	0.5	50,000
Double Turret	500,000	Emergency Low Berth	1.0	100,000
Triple Turret	1,000,000	Small Craft Stateroom	2.0	50,000
Pulse Laser	500,000	Small Craft Couch	0.5	25,000
Beam Laser	1,000,000	Cargo	-	as required
Missile Rack	750,000	Fuel	-	as required
Sandcaster	250,000			

FITTINGS

BRIDGE

Two percent of ship tonnage (minimum: 20 tons). Cost is MCr0.5 per 100 tons of ship.

ARMAMENTS

Ships are allowed one hardpoint per 100 tons. Each hardpoint can mount one turret and requires 1 ton for fire control.

Game Designers' Workshop

SOFTWARE LIST

Space	MCr	Title
1	2.	Predict-1
2	4.	Predict-2
1	6.	Predict-3
3	8.	Predict-4
2	10.	Predict-5
1	1.	Gunner Interact
1	1.	Target
1	0.5	Select-1
2	0.8	Select-2
1	1.	Select-3
1	1.	Multi-target-2
2	2.	Multi-target-3
4	3.	Multi-target-4
1	2.	Launch
4	4.	Double Fire
1	1.	Maneuver/Evade-1
2	2.	Maneuver/Evade-2
3	3.	Maneuver/Evade-3
4	4.	Maneuver/Evade-4
2	5.	Maneuver/Evade-5
3	6.	Maneuver/Evade-6
1	0.5	Auto/Evade
1	0.5	Return Fire
2	1.	Anti-Missile
3	4.	ECM
1	0.1	Maneuver
1	0.1	Jump-1
2	0.3	Jump-2
3	0.4	Jump-3
4	0.5	Jump-4
5	0.6	Jump-5
6	0.7	Jump-6
1	0.4	Navigation
1	0.8	Generate
1	0.1	Anti-Hijack

Standard Software Packages: Each computer comes with a software package of programs for use with the equipment. Because each computer may be put to a different use, this software package consists of a credit in MCr equal to the model number of the computer (treat 1bis and 2bis as 1 and 2 respectively). This credit may not be converted to cash.

CREW REQUIREMENTS

Pilot (Cr6,000 monthly): Minimum one per vessel. Ships 100 tons and over require skill pilot-1 or better; small craft (under 100 tons) require ship's boat-1 or better (or may use pilot minus 1).

Navigator (Cr5,000 monthly): Minimum one per ship over 200 tons.

Engineer (Cr4,000 monthly): Minimum one per 35 tons of drives (jump drive, maneuver drive, and power plant combined). Not required on vessels less than 200 tons. Highest skilled (or oldest) is chief engineer and draws 10% more pay.

Steward (Cr3,000 monthly): Minimum one per eight high passengers. Required if high passengers are carried. Highest skilled is chief steward (or purser) and draws 10% more pay.

Medic (Cr2,000 monthly): Minimum one per 120 passengers. Required on all starships 200 tons or more. Not necessary on non-starships and small craft. Highest skilled is ship's doctor and draws 10% more pay.

Gunner (Cr1,000 monthly): One per turret or per small craft if considered necessary. Highest skilled is chief gunner and draws 10% more pay.

Additional Notes

Multiple Crew Positions: One person may fill two positions, but each is performed at skill level minus 1. Salary for the individual equals 75% of both position salaries.

Other Positions: Additional crew positions may be created as necessary.

Large Ships: For ships greater than 1000 tons, the crew should include a commanding officer (or captain), an executive officer, and at least three administrative personnel. Ships over 1000 tons should have at least ten crew members per 1000 tons of mass displacement.

CONSTRUCTION FEES

Naval Architect: Charges 1% of final ship cost to prepare design plans in four weeks. A rush job costs 1.5% and takes two weeks.

Standard Designs: Off-the-shelf standard design plans for standard ships cost Cr100. Such standard design ships cost 90% of normal cost.

Financing: 20% cash down payment, plus 1/240th of list price monthly for 480 months.

FUEL CONSUMPTION

Jump Drive: 0.1MJn; M is the ship tonnage, Jn is jump number executed.

Power Plant: 10Pn; Pn is power plant number installed. Allows operations for four weeks.

Small Craft: Fuel tankage listed in descriptions supports four weeks of operations.

STARSHIP DESIGN CHECKLIST

Use this checklist to control design and construction of starships.

1. Select hull size.
2. Select drives.
 - A. Jump drive.
 - B. Maneuver drive.
 - C. Power plant.
3. Fuel Tankage.
 - A. Power plant and maneuver fuel. Formula: 10Pn.
 - B. Jump Fuel. Formula: 0.1MJn.
4. Bridge (2% of tonnage; minimum 20 tons; MCr0.5 per 100 tons of hull).
5. Computer.
6. Allocate accommodations for passengers and crew.
 - A. Staterooms.
 - B. Low Berths.
7. Armament.
 - A. Hardpoints.
 - B. Turrets.
 - C. Fire Control (1 ton per turret).
 - D. Weapons.
8. Vehicles. Select ship's vehicles and small craft.
9. Allocate cargo capacity.
10. Streamlining (MCr1 per 100 tons).
11. Determine crew.
12. Subtotal ship tonnage and costs.
13. Architect's fees (1% of total cost).
14. Note total price and construction time required.

STANDARD VEHICLES

Vehicle	Tons	MCr
ATV	10	0.03
Air/Raft	4	0.60
Speeder	6	1.00
GCarrier	8	1.00
Launch	20	14.00
Ship's Boat	30	16.00
Pinnacle	40	20.00
Cutter	50	28.00
Fuel Module	30	1.00
ATV Module	30	1.80
Open Module	30	2.00
Slow Boat	30	15.00
Slow Pinnacle	40	18.00
Shuttle	95	33.00
Fighter	10	18.00

Ship Design and Construction

STANDARD SHIP DESIGNS

The following are standard designs:

A Free Trader. 200 tons. Jump-1, 1-G. 30 tons fuel. Model/1. 10 staterooms, 20 low. 2 hardpoints. 82 tons cargo. Streamlined. 4 crew.

MCr37.08; 11 months.

S Scout. 100 tons. Jump-2, 2-G. 40 tons fuel. Model/1bis. 4 staterooms. 1 hardpoint (double turret). Air/raft. 3 tons cargo. Streamlined. 1 crew.

MCr29.43; 9 months.

R Subsidized Merchant. 400 tons. Jump-1, 1-G. 50 tons fuel. Model/1. 13 staterooms, 9 low. 2 hardpoints. Launch. 200 tons cargo. Streamlined. 5 crew.

MCr101.03; 14 months.

M Subsidized Liner. 600 tons. Jump-3, 1-G. 210 tons fuel. Model/3. 30 staterooms, 20 low. 3 hardpoints. Launch. 129 tons cargo. Unstreamlined. 9 crew.

MCr236.97; 22 months.

Y Yacht. 200 tons. Jump-1, 1-G. 50 tons fuel (allows two successive jump-1). Model/1. 14 staterooms. 1 hardpoint. ATV, air/raft, ship's boat. 11 tons cargo. Unstreamlined. 4 crew.

MCr51.057; 11 months.

C Mercenary Cruiser. 800 tons. Jump-3, 3-G. 318 tons fuel (48 tons reserve). Model/5. 25 staterooms. 8 hardpoints (8 triple turrets). Air/raft, 2 modular cutters (1 open module, 1 fuel module, 2 ATV modules), 2 ATVs. 80 tons cargo. Unstreamlined. 8 crew.

MCr445.95; 25 months.

T Patrol Cruiser. 400 tons. Jump-3, 4-G. 160 tons fuel. Model/3. 12 staterooms, 4 low berths. 2 hardpoints (2 triple missile turrets, 2 triple laser turrets). Ship's boat, GCarrier. 10 crew.

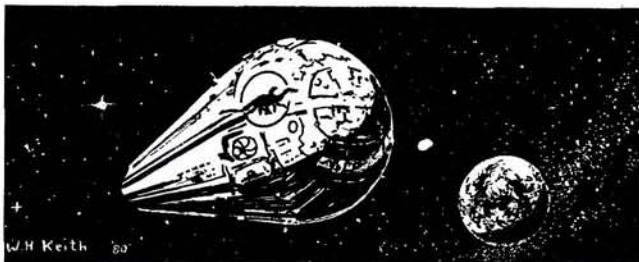
MCr221.04; 16 months.

L Laboratory Ship. 400 tons. Jump-2, 1-G. 90 tons fuel. Model/2. 20 staterooms. 2 hardpoints. 2 air/rafts, 1 pinnacle. 23 tons cargo. 85 tons lab space. Unstreamlined. 5 crew.

MCr158.98; 14 months.

K Safari Ship. 200 tons. Jump-2, 1-G. 60 tons fuel. Model/1bis. 11 staterooms. 1 hardpoint (double turret). Air/raft, launch. 6 tons cargo. 2 capture tanks; 1 lounge. Streamlined. 5 crew.

MCr81.08; 11 months.



berths also serve well in emergencies, in that they can provide suspended animation facilities for characters when medical care or rescue is not immediately available.

Emergency low berths are also available; they will not carry passengers, but can be used for survival. Each costs Cr100,000 and displaces one ton. Each holds four persons who share the same revival die roll.

D. Fuel: Total fuel tankage for a ship must be indicated in the design plans. There is no cost, but the capacity does influence how often the ship must refuel. At a minimum, ship fuel tankage must equal $0.1MJn + 10Pn$, where M is the tonnage of the ship, Jn is the ship's jump number, and Pn is the ship's power plant rating. Power plant fuel under the formula ($10Pn$) allows routine operations and maneuver for four weeks. Jump fuel under the formula ($0.1MJn$) allows one jump of the stated level. Ships performing jumps less than their maximum capacity consume fuel at a lower level based on the jump number used.

E. Cargo Hold: The design plan must indicate cargo capacity. There is no cost, but cargo carried may not exceed cargo capacity.

F. Armaments: Any ship may have one hardpoint per 100 tons of ship. Designation of a hardpoint requires no tonnage, and costs Cr100,000. Hardpoints may be left unused if desired.

One turret may be attached to each hardpoint on the ship. When it is attached, one ton for fire control must be allocated. Turrets themselves are available in single, double, and triple mounts which will hold one, two, or three weapons respectively. Prices for turrets and weapons are indicated on the weapons and mounts table.

Turrets and weapons may be altered or retrofitted. For example, a single turret can have its pulse laser replaced by a beam laser when it becomes available; a single turret can be replaced by a triple turret when it becomes available. Weapons for installation in turrets include pulse and beam lasers, missile racks, and sandcasters. All are used in the space combat system described later in this book.

OPTIONAL COMPONENTS

The following are optional components. Where not present, they may be added to a standard design by the purchaser.

Atmospheric Streamlining: The hulls specified are rough deep space configurations incapable of entering atmospheres. They may be streamlined by so indicating in the design plans, at a cost of MCr1 per 100 tons of ship. This streamlining includes fuel scoops which allow the skimming of unrefined fuel from gas giants and the gathering of water from open lakes or oceans. Streamlining may not be retrofitted; it must be included at the time of construction.

Ship's Locker: Every ship has a ship's locker. The actual cost of much of the equipment within the locker is inconsequential when compared to hull and drive costs; the referee should administer what is actually within the ship's locker based on the situation. Typical equipment carried aboard will include protective clothing, vacc suits, weapons such as shotguns or carbines, pistols, ammunition, compasses and survival aids, and portable shelters.

Ship's Vehicles: A ship may have one or more subordinate vehicles specified as part of the ship's equipment, and tonnage may be devoted to the permanent stowage or hangarage of the vehicles. The vehicles list indicates those vehicles and small craft commonly available.

Air/rafts, ATVs, GCarriers, and speeders are described in the chapter on equipment. In most cases, vehicles will have ports or bay doors opening to the outside; air/rafts, GCarriers, and speeders can reach orbit, and are often launched to a world surface from orbit. If an ATV is carried, provision must be made to move it to a world surface if the ship is not streamlined (unless the vehicle is intended for use only on worlds without atmospheres).

Small craft are covered later in this chapter. When small craft are carried on a ship, it must have sufficient tonnage to hold each small craft allocated as small craft hangars or compartments.

SHIP CREWS

Each ship requires a crew. On small ships, the crew may be one person; on larger ships, the crew can be quite large. The following basic crew positions must be filled:

Pilot: Each starship and non-starship requires a pilot, who must have at least pilot-1 skill. Small craft require a pilot who must have at least ship's boat-1.

Navigator: Each starship displacing greater than 200 tons must have a navigator. The pilot of a small craft or non-starship can handle its navigation requirements.

Engineer: Any ship with tonnage 200 tons or more must have one engineer (with minimum engineer-1 skill) per 35 tons of drives and power plant. If there is more than one engineer, then the most skilled (or the oldest) becomes chief engineer with 10% more pay. Ships under 200 tons and small craft do not require an engineer, although engineering skill may prove useful.

Steward: If high passengers are carried, then a steward is required. There must be at least one steward (steward skill-0 or better) per eight high passengers on the ship. If there is more than one steward, the most skilled is designated chief steward (or purser) and draws 10% more salary.

Medic: Each starship of 200 tons or more must have a medic (medic-1 skill or better). In addition, there must be at least one medic per 120 passengers carried. If there is more than one medic, the most skilled is designated ship's doctor and draws 10% more pay. Non-starships and small craft do not require medics.

Gunner: One gunner (gunnery skill-1 or better required) may be hired per turret on a ship. Armed small craft require a gunner in addition to the pilot. If there is more than one gunner, the most skilled is designated the chief gunner and draws 10% more pay. The gunner position may be omitted if there is no major threat to the ship.

One person may fill two crew positions, providing he or she has the skills needed for both jobs. However, because of the added burden, each position is filled with skill minus one, and the individual draws salary equal to 75% of each position; thus, to fill two positions, the character must have skill level 2 in each, except steward, which requires level 1. No person may assume the duties of more than two crew positions except in the case of an emergency.

Other crew positions may be created depending on the facilities of the starship: for example, a starship which carries a cutter could have a crew position for cutter pilot (and possibly for cutter gunner) in addition to its normal crew positions. Specific jobs or tasks (laboratory technician if the ship has a laboratory; contact specialist if the ship is assigned alien contact missions) require crew members to perform them.

For starships of greater than 1000 tons hull mass displacement, the crew should also include a commanding officer (or captain), his executive officer, and at least three administrative personnel. Extremely large starships should have at least 10 crew members for each 1000 tons of mass displacement.

WEAPONRY

The four commonly available weapons types are pulse lasers, beam lasers, missile launchers, and sandcasters.

Pulse Lasers fire short bursts of energy at targets and are more effective at inflicting damage than are beam lasers.

Beam Lasers fire continuous beams of energy and are more effective in achieving hits than are pulse lasers.

Missile Racks are launchers for small anti-ship missiles. The typical missile is a homing type which constantly seeks the target ship, ultimately being destroyed by the target's defenses, or exploding and doing damage to it. Such missiles may also be converted to planetary surface bombs, or to surveillance drones (mechanical and electronic skill should apply in such cases). Individual missiles weigh about 50 kg, and cost Cr5,000 each.

Sandcasters are defensive weapons; they dispense small particles which counteract the strength of lasers and protect the ship. The specific particles used are similar to the material used in ablat personal armor; replacement canisters of this special sand weigh about 50 kg and cost Cr400.

SMALL CRAFT

Vessels under 100 tons are considered to be small craft. There are eight standard designs available; each design plan is available for Cr100. All take approximately twelve months to build. All are streamlined, and can enter atmospheres. All can operate with unrefined fuel; they have fuel scoops which allow them to skim fuel from a gas giant.

Each small craft design is intended to be as useful as possible. As a result, the description covers basic performance of the craft, and indicates price, crew, and other details. Each craft also has a feature called excess space: this interior tonnage may be used by the purchaser for a wide variety of purposes. In effect, when the craft is procured, it is customized by the purchaser for some specific use. Any fitting or combination of fittings shown on the fitting table may be specified for a standard design

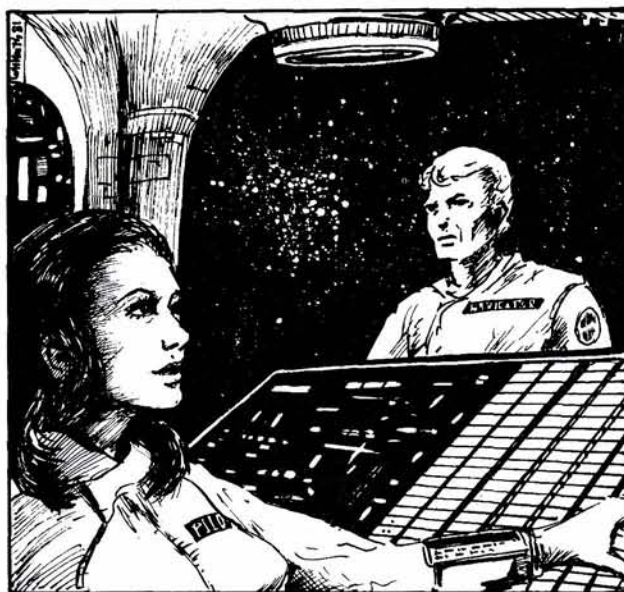
small craft. The prices, however, are ignored, and are considered to be included in the standard design price. For example, the launch, with 13 tons excess space, could utilize that space for 5 tons of fuel, 10 passenger couches, a small craft cabin, and one ton of cargo. As another example, the vessel could have all 13 tons allocated to cargo. In either case, the price of the launch remains MCr14.

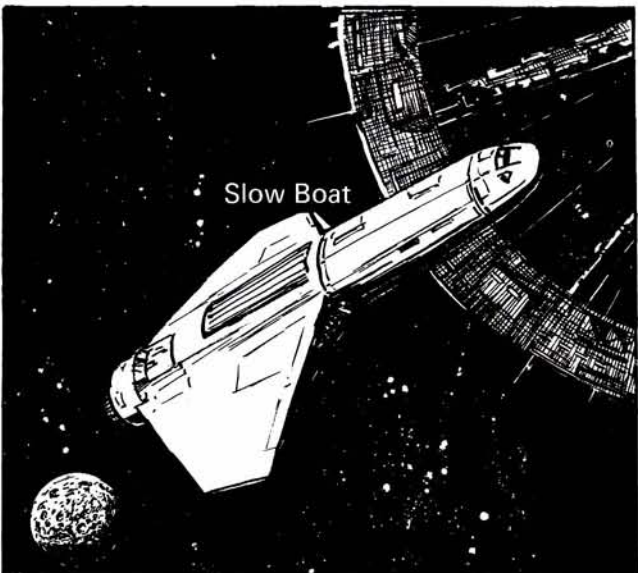
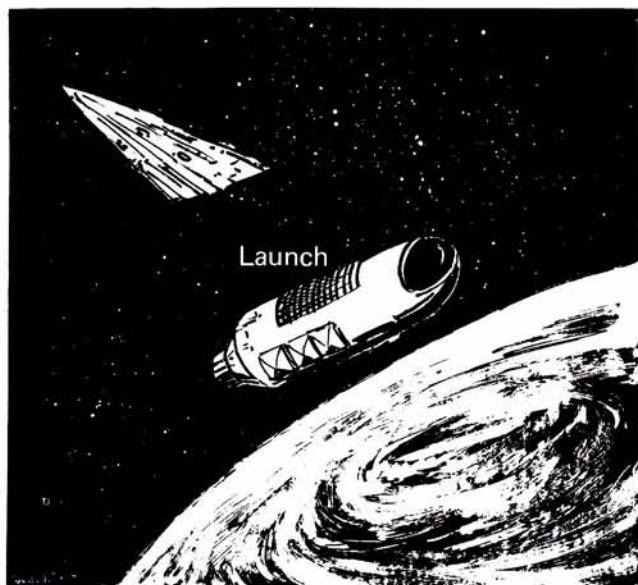
Fittings: The fittings table indicates items which may be allocated to small craft. Staterooms, low berths, and emergency low berths are the same as those used in larger ships. The small craft cabin is a small, one-passenger stateroom for use on longer duration voyages. It can be used double occupancy on small craft which have no bridge, but the crew will become increasingly uncomfortable. Small craft couches are individual passenger seats; one is required for each passenger carried (if a stateroom or cabin is not provided). Each small craft except the fighter already has two small craft passenger couches installed (the fighter has one). Cargo and fuel tankage are simply allocated; one ton of cargo space carries one ton of cargo, while one ton of fuel tankage carries one ton of fuel. The fuel tankage listed for each small craft supports four weeks of operation. Each additional increment of fuel tonnage added supports an additional four weeks of operation.

Listed crew for all small craft except the fighter is two: pilot and rider. The craft may be operated by one pilot if desired. The pilot must have ship's boat skill (or may use pilot skill minus one). The rider may be a gunner, a passenger, or a co-pilot. If the craft is armed, but carries no gunner, the pilot may fire the weapon with a DM of -1 on the weapon.

Computers may be added to small craft, but such computers must be purchased normally. Specific computer restrictions are indicated in the small craft descriptions.

Weaponry may be added to small craft. Each small craft may allocate one ton to weaponry and install up to three weapons. The individual listings indicate specific weapons which are available for the small craft.





Shown on these two pages are eight standard small craft descriptions and illustrations.

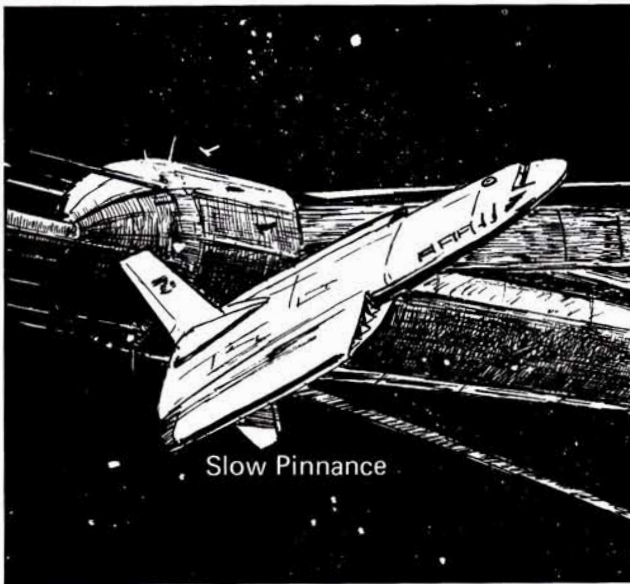
Launch (also called Lifeboat): Using a 20-ton hull, the launch is capable of 1-G acceleration, carries 1 ton of fuel tankage, and has a crew of two. A launch may mount missile racks and sandcasters; it may not mount lasers. The maximum computer for the launch is the Model/2bis. The craft has 13 tons excess space available for custom use, and costs MCr14.

Ship's Boat: Using a 30-ton hull, the ship's boat is capable of 6-G acceleration, carries 1.8 tons of fuel tankage, and has a crew of two. A ship's boat may mount one beam or pulse laser; remaining weapons must be missile racks and sandcasters. The maximum computer for the ship's boat is the Model/3; if the computer is Model/3, lasers may not be mounted. The craft has 13.7 tons of excess space available, and costs MCr16.

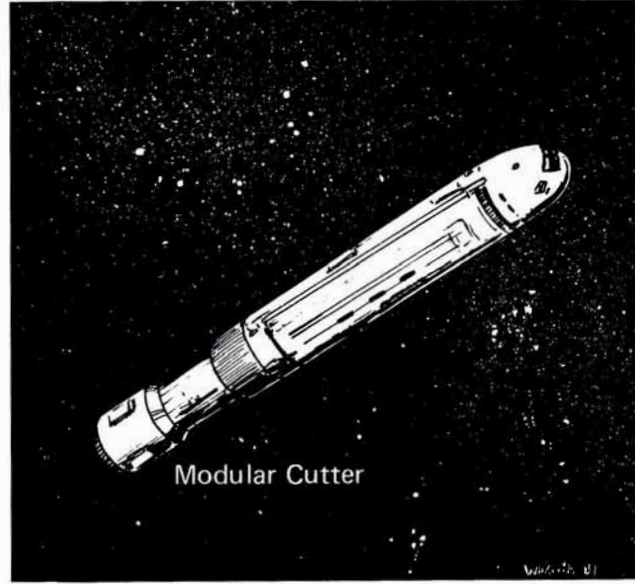
Slow Boat: Using a 30-ton hull, the slow boat is capable of 3-G acceleration, carries 1 ton of fuel tankage, and has a crew of two. A slow boat may mount one beam or pulse laser; remaining weapons must be missile racks or sandcasters. The maximum computer for the slow boat is the Model/3; if the computer is Model/3, lasers may not be installed. The craft has 19.9 tons of excess space, and costs MCr15.

Pinnacle: Using a 40-ton hull, the pinnacle is capable of 5-G acceleration, carries 2 tons of fuel, and has a crew of two. It may mount two lasers, and any remaining weapons must be missile racks or sandcasters. The maximum computer for the pinnacle is the Model/4. If a Model/3 is installed, only one laser may be mounted; if a Model/4 is installed, no lasers may be installed. The craft has 22.4 tons of excess space, and costs MCr20.

Slow Pinnacle: Using a 40-ton hull, the slow pinnacle is capable of 2-G acceleration, carries 1 ton of fuel, and has a crew of two. It may mount one beam or pulse laser; remaining weapons must be missile racks or sandcasters. The maximum computer for the slow pinnacle is the Model/3; if the computer is a Model/3, lasers may not be



Slow Pinnace



Modular Cutter

mounted. It has 31.6 tons excess space, and costs MCr18.

Modular Cutter: Using a 50-ton hull, the cutter is capable of 4-G, carries 2 tons of fuel, and has a crew of 2. It has 30 tons committed to special detachable modules; the craft has 2.5 tons excess space available for weaponry, computer, and possibly a couch for a third crew member. The cutter may mount up to two lasers; remaining weapons must be missile racks or sandcasters. The maximum computer for the cutter is the Model/4. If a Model/3 is installed, only one laser may be mounted; if a Model/4 is installed no lasers may be mounted. The cutter, without any modules, costs MCr28.

Three interchangeable modules are routinely available for the modular cutter.

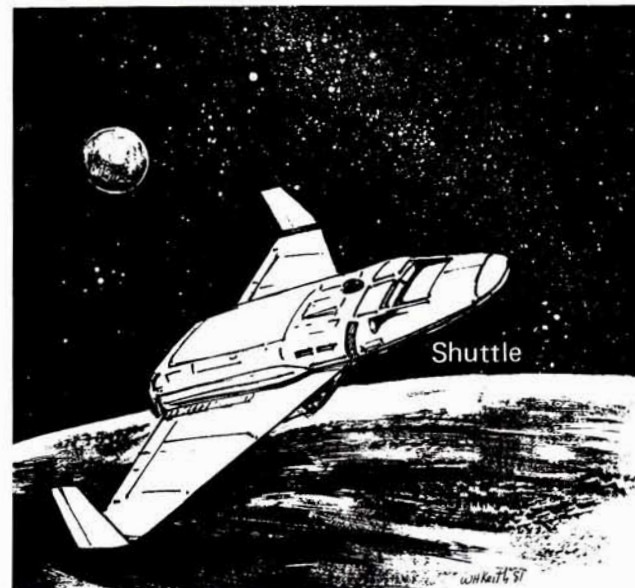
The ATV module (which includes an operational ATV) is 30 tons. It can land (and retrieve) an ATV on a world surface from orbit. The module can serve as an ATV storage location, if desired. It costs MCr1.8.

The fuel module, with 30 tons of fuel tankage, serves as a fuel skimming vehicle and storage tank. It costs MCr1.

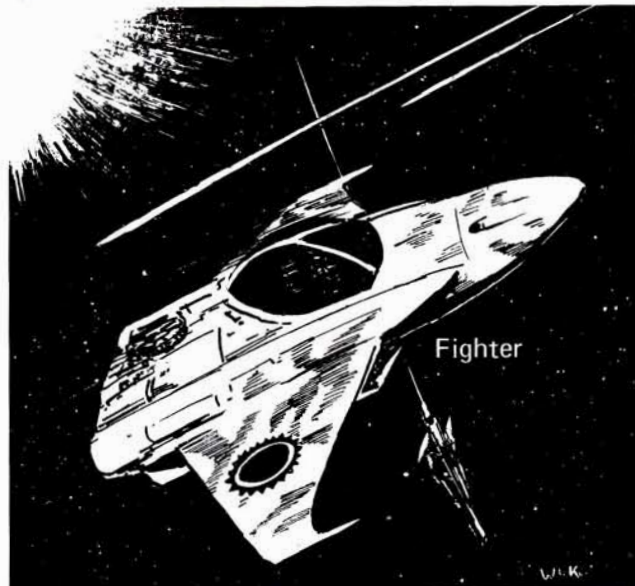
The open module is a customizable frame with 30 tons of excess space which can be allocated to passenger couches, fuel, cargo, cabin, or staterooms. It costs MCr2.

Shuttle: Using a 95-ton hull, the shuttle is capable of 3-G acceleration, carries 2.85 tons of fuel, and has a crew of 2. It may mount up to two lasers; remaining weapons must be missile racks or sandcasters. The maximum computer for the shuttle is the Model/4. If a Model/3 is installed, only one laser may be mounted; if a Model/4 is installed, no lasers are allowed. It has 71 tons of excess space, and costs MCr33.

Fighter: Using a 10-ton hull, the fighter is capable of 6-G acceleration, carries 1 ton of fuel, and has a crew of one. It includes a computer Model/1 and can mount only one type of weapon: one laser, up to three missile racks, or up to three sandcasters. The maximum computer for the fighter is the Model/3; if a Model/3 is installed, then no lasers are permitted. It has one ton of excess space, and costs MCr18.



Shuttle



Fighter

STANDARD SHIP DESIGN PLANS

The following ships are standard designs available at almost any shipyard. Each description indicates the ship's performance and details of its design. Design plans for each are available for CR100; prices shown reflect the 10% reduction in price normally allowed standard designs.

Scout/Courier (type S): Using a 100-ton hull, the scout/courier is intended for exploration, survey, and courier duties, with many in service throughout known space. It mounts jump drive-A, maneuver drive-A, and power plant-A, giving performance of jump-2 and 2-G acceleration. Fuel tankage of 40 tons supports the power plant and one jump-2. Adjacent to its bridge is a computer Model/1bis. There are four staterooms and no low berths. The ship has one hardpoint and one ton allocated to fire control. Installed on the hardpoint is one double turret, but no weaponry is mounted. There is one ship's vehicle: an air/raft. Cargo capacity is 3 tons. The hull is streamlined.

The scout/courier requires a crew of one: pilot/engineer. The ship can carry three passengers (up to seven passengers double occupancy) in non-commercial service only. The ship costs MCr29.43 (including 10% discount for standard designs) and takes 9 months to build.

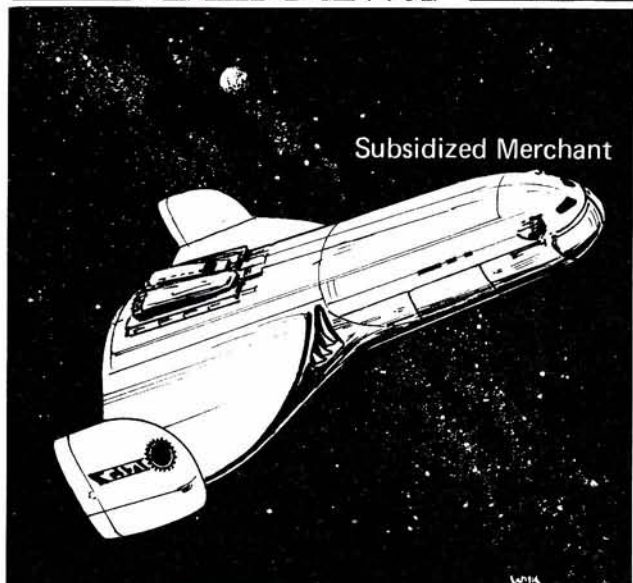
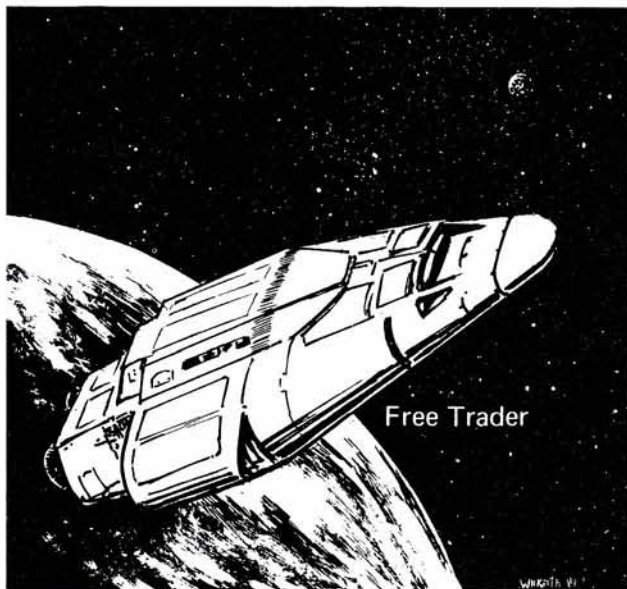
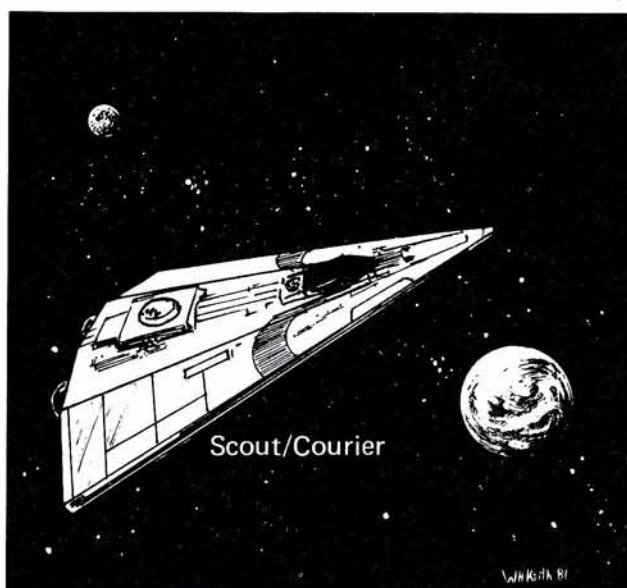
Free Trader (type A): Using a 200-ton hull, the free trader is an elementary interstellar merchant ship plying the space lanes carrying cargo and passengers. It has jump drive-A, maneuver drive-A, and power plant-A, giving performance of jump-1 and 1-G acceleration. Fuel tankage for 30 tons supports the jump drive and one jump-1. Adjacent to the bridge is a computer Model/1. There are ten staterooms and twenty low berths. There are two hardpoints and two tons set aside for fire control. No weapons are mounted. There are no ship's vehicles. Cargo capacity is 82 tons. The hull is streamlined.

The free trader requires a crew of four: pilot, engineer, medic, and steward. Up to two gunners may be added. The ship can carry six high or middle passengers and twenty low passengers. The ship costs MCr37.08 (including 10% discount for standard designs) and takes 11 months to build.

Subsidized Merchant (type R): Using a 400-ton hull, the subsidized merchant (nicknamed fat trader) is a trading vessel intended to meet the commercial needs of clusters of worlds. It has jump drive-C, maneuver drive-C, and power plant-C, giving performance of jump-1 and 1-G acceleration. Fuel tankage for 50 tons supports the power plant and allows one jump-1. Adjacent to the bridge is a computer Model/1. There are thirteen staterooms and nine low berths. The ship has two hardpoints and two tons set aside for fire control. No weapons are mounted. There is one ship's vehicle: a 20-ton launch. Cargo capacity is 200 tons. The ship is streamlined.

The fat trader requires a crew of five: pilot, navigator, engineer, medic, and steward. Up to two gunners may be added. The pilot operates the launch. The ship can carry eight high or middle passengers and thirteen low passengers. The ship costs MCr101.03 (including 10% discount for standard designs) and takes 14 months to build.

Subsidized Liner (type M): Using a 600-ton hull, the subsidized liner is a passenger and freight carrier committed



to long-haul routes. It has jump drive-J, maneuver drive-C, and power plant-J, giving performance of jump-3 and 1-G acceleration. Fuel tankage for 210 tons supports the power plant and allows one jump-3. Adjacent to the bridge twenty low berths. The ship has three hardpoints and three tons set aside for fire control. No weapons are installed. There is one ship's vehicle: a 20-ton launch. Cargo capacity is 129 tons. The hull is unstreamlined.

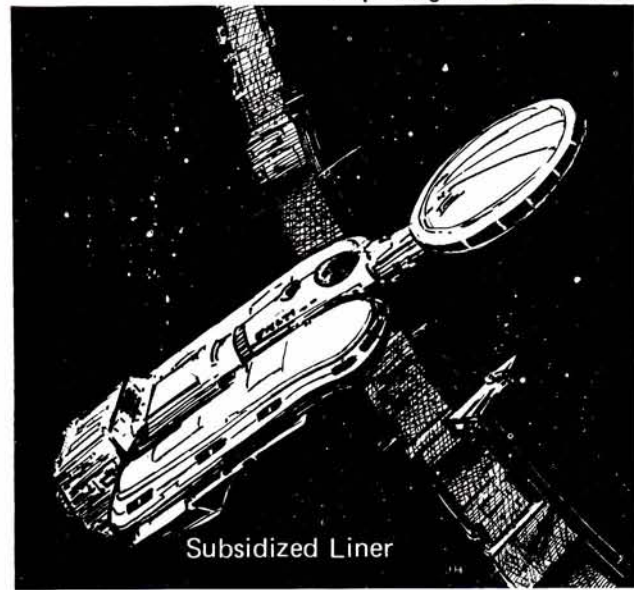
The subsidized liner requires a crew of nine: pilot, navigator, three engineers, three stewards, and one medic. Up to three gunners may be added. The ship can carry 21 high or middle passengers and twenty low passengers. The pilot operates the launch. The ship costs MCr236.97 (including 10% discount for standard designs) and takes 22 months to build.

Yacht (type Y): Built on the 200-ton hull, the yacht is a noble's plaything used to entertain friends and undertake political or commercial missions. It mounts jump drive-A, maneuver drive-A, and power plant-A, giving performance of jump-1 and 1-G acceleration. Fuel tankage of 50 tons supports the power plant and allows two successive jump-1. Adjacent to the bridge is a model/1 computer. There are fourteen staterooms (two have been combined into a suite for the owner) and no low berths. There is one hardpoint and one ton allocated for fire control. No weaponry is installed. There are three ship's vehicles: an air/raft, a 30-ton ship's boat, and an ATV. The ship's boat is fitted to ferry the ATV from orbit to surface and back. Cargo capacity is 11 tons. The yacht is unstreamlined.

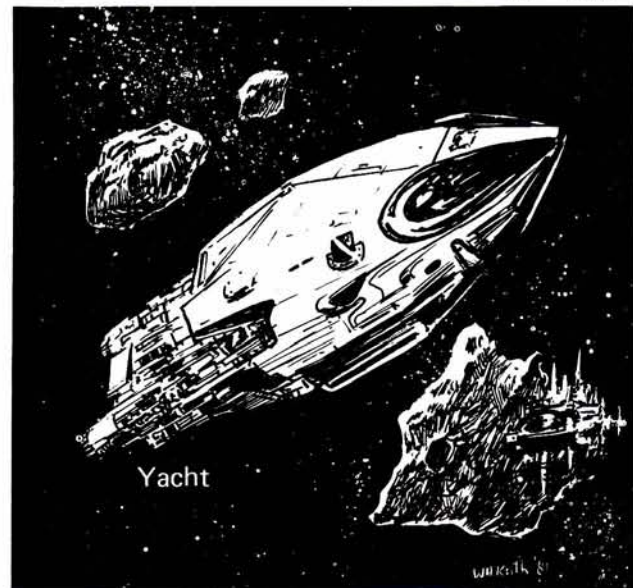
The yacht requires a crew of four: pilot, engineer, medic, and steward. Additional stewards, gunners, navigators and other personnel may be added. The steward operates the ship's boat, the air/raft, and the ATV. The ship can carry up to 9 passengers in non-commercial service. The yacht costs MCr51.057 (including 10% discount for standard designs) and takes 11 months to build.

Mercenary Cruiser (type C): Using an 800-ton hull, the mercenary cruiser is built to carry small troop units for corporate or government operations. It has jump drive-M, maneuver drive-M, and power plant-M, giving jump-3 and 3-G acceleration. Fuel tankage of 318 tons supports the power plant, provides one jump-3, and holds 48 tons in reserve for its small craft and for long term operations. Adjacent to the bridge is a computer Model/5. There are 25 staterooms and no low berths. The ship has eight hardpoints and eight tons allocated for fire control. Eight triple turrets are installed, but no weapons are mounted. There are five ship's vehicles: two modular cutters (with one open module and one fuel module), two ATVs (in ATV modules), and one air/raft. Cargo capacity is 80 tons. The hull is unstreamlined.

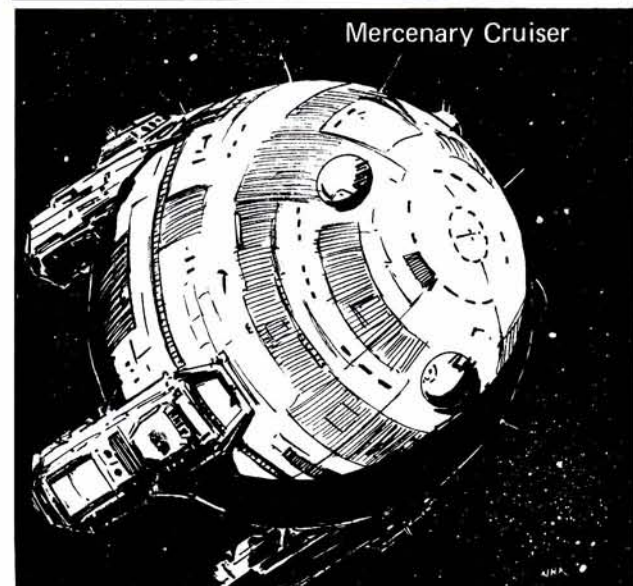
The mercenary cruiser requires a crew of eight: commanding officer, pilot, navigator, four engineers, and medic. Vehicle pilots, clerks, troops, and gunners may be added. The ship can carry 17 passengers (42 if double occupancy) in non-commercial service; its primary intended purpose is transport and support of small military (mercenary) units. The ship costs MCr445.95 (including 10% discount for standard designs) and takes 25 months to build.



Subsidized Liner



Yacht



Mercenary Cruiser

Patrol Cruiser (type T): Using a custom 400-ton hull, the patrol cruiser is a military vessel used for customs inspections, piracy suppression, and normal safety patrols. It has jump drive-F, maneuver drive-H, and power plant-H, giving the ship performance of jump-3 and 4-G acceleration. Fuel tankage for 160 tons supports the power plant and allows one jump-3. Adjacent to the bridge is a Model/3 computer. There are twelve staterooms and four low berths. There are four hardpoints and four tons allocated for fire control. Four triple turrets are installed: two with triple lasers and two with missile racks. There are two ship's vehicles: a GCarrier and a 30-ton ship's boat. Cargo capacity is 50 tons. The ship is streamlined.

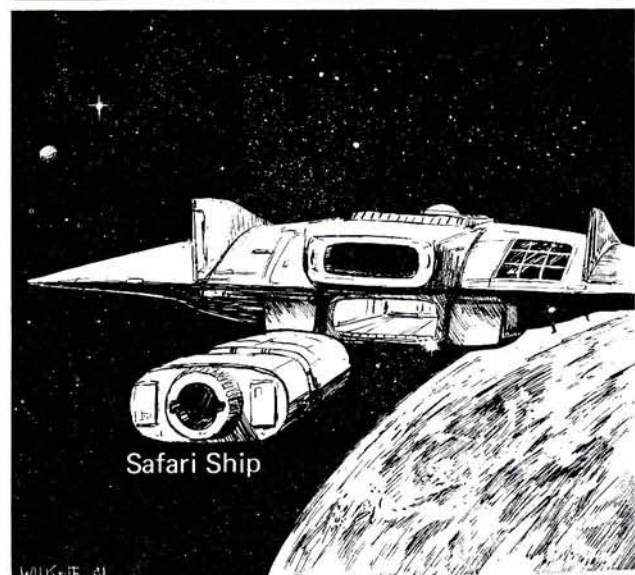
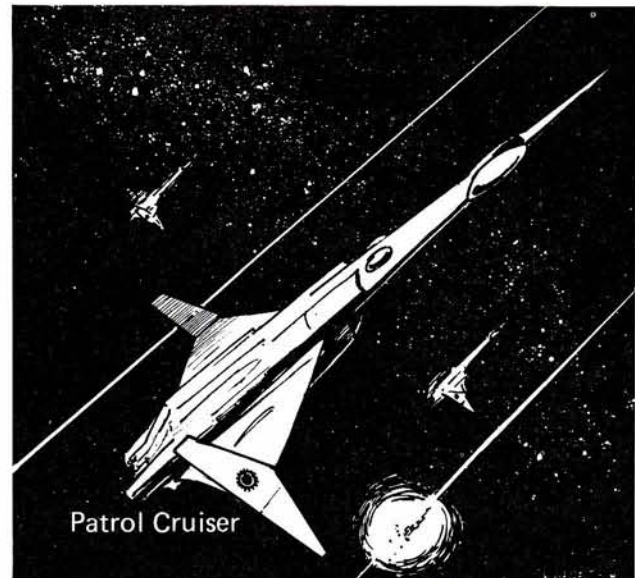
The patrol cruiser requires a crew of 10: pilot, navigator, three engineers, medic, and four gunners. Eight troops can be added (requiring double occupancy for troops and gunners). The ship costs MCr221.04 (including 10% discount for standard designs) and takes 16 months to build.

Laboratory Ship (type L): Using a 400-ton hull, the laboratory ship is a mobile base for scientific analysis and investigation. It mounts jump drive-D, maneuver drive-C, and power plant-F, giving a performance of jump-2 and 1-G acceleration. Fuel tankage for 90 tons supports the power plant and one jump-1. Adjacent to the bridge is a model-2 computer. There are twenty staterooms and no low berths. The ship has two hardpoints and two tons allocated to fire control. No weapons are installed. There are three ship's vehicles: two air/rafts and one 40-ton pinnacle. Cargo capacity is 23 tons. Laboratory space equals 85 tons. One ton is waste space. The ship is unstreamlined.

The laboratory ship requires a crew of five: pilot, navigator, two engineers, and medic. Gunners and scientific research personnel may be added. The pilot operates the pinnacle; the engineers operate the air/rafts. The ship can carry 20 passengers (35 if double occupancy) on a non-commercial basis. The ship costs MCr158.98 (including 10% discount for standard designs) and takes 14 months to build.

Safari Ship (type K): Using a 200-ton hull, the safari ship is an excursion vessel intended for trophy-taking (real or photographic) expeditions to other worlds. It has jump drive-B, maneuver drive-A, and power plant-B, giving a performance of jump-2 and 1-G acceleration. Fuel tankage for 60 tons supports the power plant and one jump-2. Adjacent to the bridge is a computer Model/1bis. There are eleven staterooms and no low berths. The ship has one hardpoint and one ton allocated to fire control. A double turret is installed, but no weapons are mounted. There are two ship's vehicles: an air/raft and a 20-ton launch. Cargo capacity is 6 tons. Two 7-ton capture tanks hold specimens, and a 7-ton trophy lounge serves as a hunter's recreation area. The hull is streamlined.

The safari ship requires a crew of five: pilot, navigator, engineer, steward, and medic. A gunner and additional expedition personnel may be added. The pilot operates the launch; the steward operates the air/raft. The ship can carry a party of six (or up to 8 if the crew goes to double occupancy) on expeditions; it does not engage in commercial passenger service. The ship costs MCr81.08 (including 10% discount for standard designs) and takes 11 months to build.



BUILDING CUSTOM SHIPS

Should one of the standard design ships not meet an individual's or a government's needs, a naval architect will certainly be willing to earn his or her 1% fee by providing design plans for any specific vessel. The process begins by directing the potential purchaser to the starship design checklist for details of the desired ship. The following notes should also be made available to the prospective ship designer and purchaser:

1. Custom hulls with mass displacements other than the hull sizes shown on the drive potential table are treated as the next larger size (for example, 101 tons is treated as 200 tons for the purpose of drive selection). The maximum hull possible in these rules is 5000 tons.

2. Only the drives and power plants shown on the drive potential table are possible. Drives marked with a dash (—) may not be used with that hull size.

Sufficient fuel tankage to meet the power plant and jump drive fuel requirements must be installed. More, to support more jumps or longer endurance by the power plant, may be allocated.

3. The definitions given in the introduction to this chapter apply. In order to build a starship, the hull tonnage must be at least 100 tons. In order to build a non-starship, the hull tonnage must be at least 100 tons and the jump drive is omitted; pricing remains otherwise the same.

This design and construction procedure does not apply to small craft, but the standard small craft shown in this chapter may be customized to a great extent.

4. Typically, hardpoints are designated (and fire control space allocated) on a ship design plan, but turrets and weapons are left off to reduce the total ship cost as well as the architect's fee. Turrets and weapons may be added later.

5. The naval architect will insist on receiving his 1% fee upon delivery of the plans and specifications. These design plans, once acquired, may be retained or filed by the adventurers, and upon delivery to a shipyard can be used to begin construction of the ship.

FORMATS

Once a custom ship has been constructed, it must be described in such a way as to allow the characters and players to utilize it and to understand its configuration. There are two ways to describe a ship: with a paragraph of description, and with a form.

TAS Form 3: The Travellers' Aid Society Form 3 shown on the next two pages can be photocopied and used to note all of the important aspects of the ship. The form is intended to be supporting documentation on the ship as it is used in *Traveller* adventures, and so includes provisions for dates and background details as well as the basic ship information.

In practice, the two methods should be combined. The ship designer should write up a paragraph description on the ship as an introduction. The actual ship user should fill out and keep current the TAS Form 3 that covers the ship while in operation.

Paragraph Description: Using the starship design checklist, determine the exact design of the ship, including

tonnages, prices, and details. Then write a paragraph of description for the ship, using the example below. The standard starship designs are written using this system. The end result should be sufficient to allow anyone reading it to understand the ship enough to use it.

In the example, words between dashes (for example, —ship descriptive name—) must be substituted by an appropriate word or phrase. Blanks require an appropriate number or letter. Additional sentences describing special modifications and alterations may be added as needed.

—Ship Descriptive Name— (type___):

Using a___-ton hull, the —ship descriptive name— is —description of duties and purpose—.

It mounts jump drive___, maneuver drive___, and power plant___, giving a performance of jump___ and___-G acceleration.

Fuel tankage for___tons supports the power plant and ___jump___, (—additional fuel uses—).

Adjacent to the bridge is a computer Model/___.

There are___staterooms and___low berths.

The ship has___hardpoints and___tons allocated for fire control.

Installed on the hardpoints are___turrets: each carries___lasers,___missile racks, and___sandcasters.

There are___ship's vehicles: —vehicle names—.

Cargo capacity is___tons.

The hull is___streamlined.

There are —special features—.

There are___tons of waste space.

The —ship descriptive name— requires a crew of___: —crew member positions—. Additional —crew member positions— may be added.

The —crew member— operates the —ship's vehicle—.

The ship can carry___passengers and___low passengers.

The ship costs MCr___(—appropriate discounts and included fees—) and takes___months to build.

DECK PLANS

If the referee or the designer should feel that detailed deck plans for a ship are required, then they may be drawn up using square grid graph paper. The preferred scale for ship interiors should be 1.5 meters per square, with the space between decks (floor to ceiling height) put at about 3.0 meters. One ton of ship displacement equals approximately 14 cubic meters. With a 3.0 meter floor-to-ceiling height, one floor square (1.5 meters by 1.5 meters by 3.0 meters) equals 6.75 cubic meters. Two such squares equal 13.5 cubic meters, or approximately one ton.

When allocating space within the ship for deck plans, assume that only a portion of stateroom tonnage must actually be in staterooms; the remainder should be used for common areas and other accommodations for the crew.

Finally, a leeway of plus or minus 10% to 20% should be allowed. If the final deck plans come within 20% of the tonnage of the ship specifications, then they should be considered acceptable.

Keep completed deck plans available for use in campaigns and adventures.

SHIP'S PAPERS (COMMERCIAL)			1. Date of Preparation	
2. Ship Name		3. Registration Number		
4. Ship Type	5. Builder	6. Homeworld		
7. Laid Down	8. First Flight	9. Cost (<i>new</i>)	10. Occupation	
STATISTICS		Basic ship information for classification and registration purposes.		
11a. Hull Tonnage <input type="checkbox"/> Standard <input type="checkbox"/> Custom		11b. Streamlined? <input type="checkbox"/> Yes <input type="checkbox"/> No	11c. Max Atmosphere	
12. Acceleration	13. Jump	14. Power Plant	15. Cargo (<i>in tons</i>)	
16. Staterooms	17. Low Berths	18. Full Crew	19. Minimal Crew	
20. Ship's Vehicles (<i>describe</i>)				
21. Crew Manifest (<i>list names, UPPs, skills, salaries, and shares for all crew members</i>)				
22. Owner (<i>include full particulars on owner, whether present or not</i>) <input type="checkbox"/> Aboard <input type="checkbox"/> Absent				



23. Ship Name					
SHIP'S COMPUTER			Data concerning the on-board computer and available programs.		
24a. Computer Model	24b. CPU and Storage	24c. Mass	24d. Value		
25. Computer Programs <i>(note those programs available)</i>					
Routine	Space – Cr	Defensive	Space – Cr	Offensive	Space – Cr
<input type="checkbox"/> Maneuver	1 – 0.1	<input type="checkbox"/> Maneuver/evade 1	1 – 1.0	<input type="checkbox"/> Predict 1	1 – 2.0
<input type="checkbox"/> Jump 1	1 – 0.1	<input type="checkbox"/> Maneuver/evade 2	2 – 2.0	<input type="checkbox"/> Predict 2	2 – 4.0
<input type="checkbox"/> Jump 2	2 – 0.3	<input type="checkbox"/> Maneuver/evade 3	3 – 3.0	<input type="checkbox"/> Predict 3	1 – 6.0
<input type="checkbox"/> Jump 3	2 – 0.4	<input type="checkbox"/> Maneuver/evade 4	4 – 4.0	<input type="checkbox"/> Predict 4	3 – 8.0
<input type="checkbox"/> Jump 4	2 – 0.5	<input type="checkbox"/> Maneuver/evade 5	2 – 5.0	<input type="checkbox"/> Predict 5	2 – 10.0
<input type="checkbox"/> Jump 5	2 – 0.6	<input type="checkbox"/> Maneuver/evade 6	3 – 6.0	<input type="checkbox"/> Gunner Interact	1 – 1.0
<input type="checkbox"/> Jump 6	2 – 0.7	<input type="checkbox"/> Auto/evade	1 – 0.5	<input type="checkbox"/> Target	1 – 1.0
<input type="checkbox"/> Navigation	1 – 0.4	<input type="checkbox"/> Return Fire	1 – 0.5	<input type="checkbox"/> Selective 1	1 – 0.5
<input type="checkbox"/> Generate	2 – 0.8	<input type="checkbox"/> Anti-Missile	2 – 1.0	<input type="checkbox"/> Selective 2	2 – 0.8
<input type="checkbox"/> Anti-Hijack	1 – 0.1	<input type="checkbox"/> ECM	3 – 4.0	<input type="checkbox"/> Selective 3	1 – 1.0
<input type="checkbox"/> Library	1 – 0.3			<input type="checkbox"/> Multi-target 2	1 – 1.0
				<input type="checkbox"/> Multi-target 3	2 – 2.0
				<input type="checkbox"/> Multi-target 4	4 – 3.0
				<input type="checkbox"/> Launch	1 – 2.0
				<input type="checkbox"/> Double Fire	4 – 4.0
ADDITIONAL DATA			Information on armaments, inventories and services performed.		
27. Turrets <i>(list turrets by hardpoint; indicate installed weaponry)</i>					
28. Ship's Locker <i>(inventory contents)</i>					
29. Annual Maintenance <i>(indicate date of last performance)</i>					



Computers

The computer installed on a ship controls all activity within, and is especially used to enhance weapons fire and defensive activity. It also transmits control impulses for maneuver and jump drives, and conducts the routine operation of all ship systems. What the computer actually does is based on the programs installed and operating at any one time.

Computers are identified by model, and specified in terms of their capacity to process and store programs. Models range from Model/1 to Model/7. Capacity is stated as the size of the CPU (central processing unit) and of available storage for programs. All programs in the computer's CPU are processed simultaneously, while programs in storage are available on a revolving basis to replace those in the CPU as needed. For example, a Model/1 computer has a CPU capacity of two, and an additional storage capacity of four. The computer might have in it six programs (each of size or space 1): return fire, predict-1, gunner interact, auto/evasive, maneuver, and target. Of these six, only two (the capacity limit of the CPU) can function at any one time (in one phase). In the laser return fire phase, both target and return fire programs would be required, and only those programs could be used with this capacity CPU to effect laser return fire. During a laser fire phase, as before, only two programs could be used: target is required, but the player could select between predict-1 or gunner interact for the program to be processed, depending on which would provide the greater benefit.

During the computer reprogramming phase, specific programs may be removed from the computer and others inserted. To continue the example above, both jump-1 and navigation would be required for the performance of an interstellar jump. Both programs would be fed into the computer during the reprogramming phase, but only after sufficient space had been cleared (perhaps by removing the maneuver and auto-evasive programs).

THE SOFTWARE LIST

The computer software list indicates the various programs that are available. It shows space required by a specific program in CPU or storage, its price in MCr, and its title. Also shown is a brief overview of its effects. The three right-hand columns indicate various requirements for individual characters producing the programs. Such a course will save money, but may have some pitfalls.

Programs in the software list are classified as offensive, defensive, and routine.

Offensive programs are intended to allow the use of weapons mounted on a ship to damage or destroy enemy vessels. They are useful only if the vessel mounts weaponry.

Target identifies enemy vessels and controls all turrets on board ship. It is required for all laser fire and missile or

sand launches except anti-missile fire. It provides no DMs of its own.

Predict is a series of five programs which predict the future position of the target and allow insertion of lead into laser fire. Predict applies only to laser fire, and allows an advantageous DM to hit.

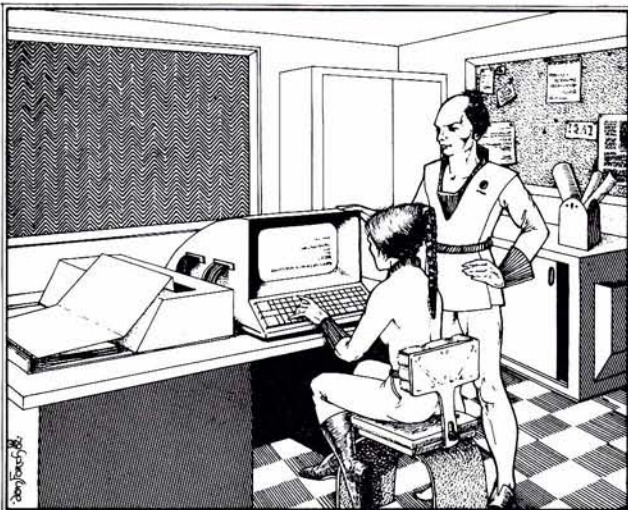
Gunner interact interfaces the expertise of the gunner in a specific turret to the hit probability of those lasers hitting the target. The expertise of the gunner becomes a positive DM to hit when using laser fire.

Selective allows a gunner to select either the main compartment or engineering section as the target to receive hits to be inflicted. Each of the three selective programs inserts DMs against the probability of hitting the more restricted target, but hits, if made, are assured of going on the selected portion of the target.

Launch allows missiles to be launched from launch racks and sand to be fired from sandcasters. The target program is also required.

Multi-target is a series of programs that interfaces the ship's detectors and radar with several turrets and allows an attack on more than one target at one time. Each turret may still only fire at one specific target, but different turrets may fire at different targets. This program is required if more than one ship target is fired on in the same phase. The target program is also required.

Double fire allows a ship to draw excess power (if available) from the power plant and thus increase the output of laser weaponry. When this program is functioning, a vessel with a power plant rated at least one letter higher than its maneuver drive (and which has not yet taken damage to reduce the current letter rating to equal to or below the M-Drive letter) can fire a double beam or double pulse with laser weaponry. The normal dice throw to hit is made twice. Each time double fire is used, a throw must be



made to determine if overload has occurred: For the first phase of such fire, throw 1+ to survive overload; for the second phase, throw 2+ to survive, and so on; DM -1 for each turn in which lasers do not fire at all. If the throw to survive is not achieved, a hit is received on the ship's power plant.

Defensive programs are used to protect a starship against enemy action.

Maneuver/evade is a series of six programs which automatically produce minor movement for a ship, thus reducing its chances of being hit by laser fire. Each program has a DM based on pilot expertise (multiply pilot skill by the stated fraction and round down to a whole number). In addition, these programs allow the use of the maneuver drive as required, just like the normal maneuver program.

Auto/evade is similar to maneuver/evade, but performs at a lower level; it allows a defensive DM against laser fire of -2.

ECM is an electronic countermeasures program which jams and confuses the homing heads of incoming missiles, forcing them to explode prematurely in many cases. During the laser return fire phase, all missiles in contact with the ship are destroyed without damage to the ship on a throw of 7+.

Return fire allows laser weaponry to fire at enemy ships which have fired at it in the immediately previous fire phase. Use of this program also requires the target program, and DMs produced by other programs (such as gunner interact) are allowed. If more than one enemy ship is fired on, the multi-target program is also required.

Anti-missile allows any or all laser weaponry to fire at enemy missiles which have contacted the ship during the preceding movement phase. The target and multi-target programs are not required. Other programs do not affect the functioning of these programs (with DMs, etc.).

Routine programs are used to operate ship's systems other than weaponry, and without regard to violent interaction.

Maneuver is required to allow the use of maneuver drive. In combat it is often replaced by the maneuver/evade program.

Jump is required to allow the ship to perform a jump through interstellar space. The specific program for the jump distance required must be used. For example, a jump-6 ship which is going to perform jump-3 must use the jump-3 program.

Library is an encyclopedic compendium of information concerning the local stellar region, especially the local sector and subsector. Crew and passengers often refer to this program before disembarking on a world. The referee will often find this a handy method of imparting commonly known information to the players. The note should be made that the library program is not all-inclusive, and may be incorrect in some facts.

Generate creates a flight plan which will govern the use of the jump program. The navigator or pilot can input specific co-ordinates into the computer concerning a destination, and the generate program will create a flight plan to take the ship there. In cases where a generate program is not available, starports have single-use flight

plans (in self-erasing cassettes) available for all worlds within jump range for Cr10,000 per jump number. The generate program may be used independently and produces the required flight plan, which is then used by the computer when jump is performed.

Navigation controls the jump process after a flight plan has been produced. Flight plans must be fed into the navigation program, which then interfaces with the jump program to actually take a ship to its destination. To actually make a jump, both the jump and navigation programs must be functioning in the computer (the generate program need only run long enough to actually create the flight plan).

Anti-hijack protects the ship against potential takeovers by hijackers. This program constantly monitors conditions within the starship, and automatically locks the access doors to the bridge and controls when a hijack situation occurs. Because this system is not foolproof, would-be hijackers may gain access in spite of the program on a throw of 5 or less.

WRITING COMPUTER PROGRAMS

Player-characters can, and should, seek out new and different computer programs to improve the performance and enlarge the capabilities of their spacecraft. Generally, writing a program requires computer skill, and also some skill which relates to the actual task being programmed. The computer software list indicates in two columns the computer skill level required as a minimum to write the program, any other skill required, and the throw per week of work to succeed. Computer skill above the required level is allowed as a DM on the throw to succeed. The other skill required may be possessed by another person helping the programmer.

Fatal Flaws: Any home written program may have a fatal flaw concealed within. This bug may not appear until the program is really needed. The referee should note the potential for a fatal flaw and roll as required (suggested roll: 11+ for the bug to appear).

SMALL CRAFT COMPUTERS

Small craft do not require computers, and ordinarily do not have them. They utilize their weapons with negative DMs of -1 and cannot add in gunner skill when they are used. However, if a small craft adds a computer to its weapon system, then the ordinary computer programming rules apply to it (except that ship's boat skill is needed instead of pilot skill when writing such programs).

USING THE SOFTWARE LIST

The computer software list on page 75 shows the basic information required for the use of software.

In space combat, the important information is space required by the specific program, title, and effects.

In ship design and construction, the important information is cost in MCr and space required.

To characters interested in writing their own programs, the skills column shows the computer skill required, any other skill also called for, and the throw per week of work required to succeed in writing the program.

Space Combat

Encounters in space can be routine, or they can be extraordinary. In some circumstances, battles may result. Starship battles may be resolved by spaceship combat with miniatures in accordance with the following rules. These rules serve well in nearly all situations, from simple encounters where a free trader attempts to outrun a pirate or revenue cutter, to the complex engagements between starship squadrons of rival systems or empires.

Basic Parameters: Starship combat must deal with the following scale for movement and combat resolution:

1. **Time:** Each game turn represents 1,000 seconds.
2. **Space:** A playing surface is required, representing space as a two-dimensional surface at the scale of 1:100,000,000; one millimeter equals 100 kilometers. Three meters equals one light-second. Planetary template disks may be produced to show the presence of worlds and the effects of gravity.
3. **Thrust:** Maneuver drive thrust is measured in Gs (gravities) expressed as a vector (an arrow indicating both length and direction. Direction is infinitely variable; the length of the arrow is represented at the scale 100 mm equals 1-G (1,000 seconds acceleration at 1-G will produce a velocity change of 10,000 km, or 100 mm in scale, per turn).
4. **Units:** Starships and space vehicles are individually represented by spacecraft miniatures, or (if necessary) by counters or markers. Because spacecraft miniatures are vastly oversized for the scale in use, each should be marked with a spot or point to designate the exact location of the ships in play.

TURN SEQUENCE

Starship miniature battles are resolved in a series of game turns, each representing 1000 seconds elapsed time. Most battles, regardless of the number of ships or players participating, will involve only two sides. These two sides alternate player turns within a game turn. Thus, each 1000 second game turn includes two player turns, one for each combatant side. Each player turn is further divided into several phases which allow specific activity to be performed in a regular, orderly manner.

Native vs. Intruder: For convenience, the two sides in the battle are referred to as the intruder and the native. This terminology is intended to avoid possible confusion when one side is called the attacker but is in reality defending. Other terms could (and sometimes should) be used instead.

The sequence of the complete turn is given in the game turn sequence table. Activity must be performed only in the appropriate phases of the game turn or player turn; for example, spacecraft may not move during the laser fire phase, ordnance may only be launched during the ordnance launch phase, and computers may only be reprogrammed in the computer reprogramming phase.

PREPARATION FOR PLAY

Each ship involved in space combat must have a data card prepared for it. This card contains basic information about the ship, serving as a reference for the players during the course of the battle. As damage occurs, it is marked on the card to reduce the ship's abilities in later turns.

Because many starship battles are possible over the course of a *Traveller* campaign, the common 3 x 5 index card has been selected for recording the necessary ship information. This card may be prepared using the data on TAS Form 3 or from a ship paragraph description.

To prepare a data card, note the name and ship type on the top line of a blank 3 x 5 index card. Below the name,

on succeeding lines along the left side of the card, write the six basic sections of the ship, followed by their values:

1. M-Drive (followed by the drive letter).
2. Power Plant (followed by the power plant letter).
3. J-Drive (followed by the drive letter).
4. Fuel (followed by the fuel tonnage).
5. Hold (followed by the cargo hold tonnage and all vehicles carried).
6. Bridge (followed by the pilot expertise).

Below this data, list all turrets (numbered consecutively starting with T-1). After each turret designation, indicate the armament with which each turret is equipped, using the letters B (beam laser), P (pulse laser), M (missile launcher), and S (sandcaster). A triple turret would have up to three letters indicating the weapons installed in it, while a single turret would only have one. After the letters for the weapons, indicate the skill of the gunner in the turret. Also indicate the number of missiles present in each launch rack.

To the right of the card, indicate the computer model, as well as the CPU and storage capacity. Below that, indicate the computer programs which are carried on board the ship. During the game, these programs will be entered into the computer, and will be cycled from storage to CPU and back, so leave room to mark them with a pencil to indicate their status.

The data card example shows how a typical type S scout would be represented, armed with typical weaponry. Data cards must be created for all starships and non-starships. When creating cards for non-starships which were designed and built in accordance with the design rules, the above format applies. The jump drive letter designation is simply left blank. When a data card is made for small craft, the standard format is used, and appropriate items are left blank. Maneuver drives for small craft are labelled with drive letter zero. Computers and programs are listed only if they are actually installed. All weaponry is listed as being in a single turret.

MOVEMENT

Ships move using their maneuver drives; use of the jump drive exits a ship into interstellar space, out of the area of play. Maneuver drive uses thrust to accelerate a ship in a specific direction for a specified distance. This direction and distance are expressed as an arrow (a line in one direction) called a vector. Vectors determine how far, and in what direction, a ship can travel.

Each ship has a vector, which expresses that ship's velocity as a line (arrow) of a specific direction. For example, a ship might have a vector of 150 mm at 90 degrees, or of 100 mm at 277 degrees. It is possible to have a vector of 0 mm, whereupon the direction becomes irrelevant because the ship is stationary. Vectors are marked on the playing surface using string or soft wire. On some playing surfaces chalk can be used; on others, paper, pen, pencil, or colored markers will be useful.

A ship's vector determines the direction and distance a ship will travel in the next turn, provided it is not changed by voluntary acceleration or by gravitational effects. With a vector of 150 mm at 90 degrees, a ship will travel 150 mm at 90 degrees in its next movement phase. In clear space, without gravitational influence, and without voluntary acceleration by the ship, it could travel at 150 mm per turn (direction 90 degrees) forever.

Acceleration involves altering a ship's vector by adding another to it; this new vector can come from thrust using the maneuver drive, or it can come from gravity. In either case, the method is the same. Vectors are added by placing them in a chain, head to tail, and then drawing a new vector from the tail of the first vector to the head of the last vector.

The vector addition diagram illustrates the concept of vector addition. As shown in figure A, to add two vectors (vector 1 is 75 mm at 90 degrees, and vector 2 is 25 mm at 90 degrees), place the tail of vector 2 at the head of vector 1, and draw a line from the tail of the first vector to the head of the second vector. The result is a vector of 100 mm at 90 degrees.

Figure B is a more complex example of vector addition. Two vectors are at angles to each other (vector 1 is 75 mm at 90 degrees and vector 2 is 75 mm at 180 degrees). To add them, the tail of vector 2 is placed at the head of vector 1, and a new vector is drawn from the tail of vector 1 to the head of vector 2. In this case, the new length is approximately 106 mm with a direction of 135 degrees.

The important point to note, however, is that mathematics are not required for the solution of vector problems; a new vector is generated by simply laying all required vectors on the playing surface, and connecting them as shown above.

In a player's movement phase, he or she will indicate the acceleration (new vector) desired and note any gravitational influence vector called for. They are all added to the ship's present vector. The ship then moves in the direction of its new vector, for the length of the vector. This vector then remains on the playing surface for reference during the next applicable movement phase.

Ships are restricted in the amount of acceleration which they may add to their current vector in one movement

phase. Generally, a ship cannot accelerate more than 100 mm times its maneuver drive rating in Gs. Thus, a standard design type A free trader is capable of 1-G acceleration, and cannot add more than a 100 mm vector per turn. This does not count acceleration due to gravitational influence, and does not restrict repeated acceleration in succeeding turns. While a free trader can only accelerate 100 mm per turn, after 10 turns of continuous acceleration, it would have accumulated a vector 1 meter long.

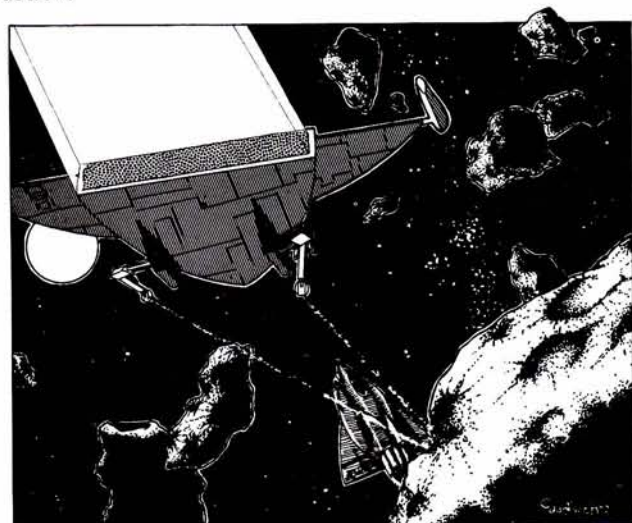
There is no restriction on the number of accelerations which may be made by a fueled ship, but the total acceleration in a turn (in millimeters) may not exceed 100 mm times the rating of the maneuver drive. Should the letter class of the maneuver drive (or the power plant) be reduced by combat damage, it may not exceed the revised size rating. Unused acceleration may not be saved or conserved to allow excess acceleration in following turns.

GRAVITY

The section on planetary templates later in this chapter covers the construction of specific world disks, complete with gravitation bands which can affect movement. When the vector of a ship passes through the gravity bands of a world, the gravity may alter that vector. During the movement phase, lay out the vector of the ship to determine where it will move. If the exact midpoint of the vector lies in a gravity band, a gravity vector will be added to the course vector to create a new vector. The length of this gravity vector is equal (in millimeters) to the strength of the gravity band in Gs \times 100. Thus, a vector dictated by the 0.5 G band of a world is 50 mm long. The gravity vector is parallel to a line connecting the regular course midpoint to the planetary template center. It is added to the regular course vector (along with any ordinary course change vector) during a player's movement phase.

LASER FIRE

In the laser fire phase of a player turn, the phasing player may fire laser weaponry at enemy targets. The following procedure dictates the order of actions taken by ships using laser fire. Several variables may affect this action.



ATTACKER'S DMs

Predict-1	+1
Predict-2	+2
Predict-3	+2
Predict-4	+3
Predict-5	+3
Gunner Interact	+gunner skill
Select-1	-2
Select-2	-1
Pulse Laser (causes 2 hits)	-1

DEFENDER'S DMs

Maneuver/Evade-1	-¼ pilot skill
Maneuver/Evade-2	-½ pilot skill
Maneuver/Evade-3	-¾ pilot skill
Maneuver/Evade-4 or -5	-pilot skill
Maneuver/Evade-6	-5
Auto/Evade	-2
Range greater than 2500mm	-2
Range greater than 5000mm	-5
Obscuring sand (per 25mm)	-3

HIT LOCATIONS

Two Dice	Non- Starship	Small Starship	Small Craft
2	Powerplant	Powerplant	Drive
3	Maneuver	Maneuver	Drive
4	Jump	Maneuver	Drive
5	Fuel	Fuel	Drive
6	Hull	Hull	Cabin
7	Hull	Hull	Computer
8	Hold	Hold	Cabin
9	Computer	Computer	Cabin
10	Turret	Turret	Weapons
11	Turret	Turret	Weapons
12	Critical	Critical	Critical

If no small craft computer, treat as drive.

CRITICAL HITS

One Die	Non- Starship	Small Starship	Small Craft
1	Powerplant	Powerplant	Drive
2	Maneuver	Maneuver	Drive
3	Jump	Maneuver	Drive
4	Crew	Crew	Crew
5	Computer	Computer	Computer
6	Explode	Explode	Explode

If no small craft computer, treat as drive.

SCALES

- Time:** Game turn is 1,000 seconds.
- Space:** 1:100,000,000; one millimeter equals 100 kilometers; three meters equal one light-second.
- Thrust:** 1-G vector equals 100 millimeters. 1,000 seconds of acceleration at 1-G produces a velocity change of 10,000 kilometers (or 100 mm in scale).
- Units:** Individual starships, non-starships, and small craft.

GAME TURN SEQUENCE

Intruder Player Turn—

A. Intruder Movement. The intruder moves his ships using the movement, gravity, and other applicable rules. Ordnance (missiles and sand) which he has launched in previous game turns is moved at the same time.

B. Intruder Laser Fire. The intruder may fire his ships' laser weaponry at enemy targets, subject to the combat, computer, and other applicable rules. Only laser weaponry may fire in this phase.

C. Native Laser Return Fire. The native may return fire with his laser weaponry at enemy ships which have fired on him, provided his return fire computer program is running during this phase, and in accordance with the computer program and combat rules. Anti-missile fire may be performed in this phase if the appropriate computer program is running.

D. Intruder Ordnance Launch. The intruder may launch ordnance (missiles and/or sand) at enemy targets or on specific missions, subject to the applicable rules. Ordnance which has contacted enemy ships explodes in this phase. Lifeboats and ship's vehicles are launched in this phase.

E. Intruder Computer Reprogramming. The intruder may remove computer programs from his on-board computer, and input other programs in anticipation of their use in later turns.

Native Player Turn—

A. Native Movement. The native moves his ships using the movement, gravity, and other applicable rules. Ordnance (missiles and sand) which he has launched in previous game turns is moved at the same time.

B. Native Laser Fire. The native may fire his ships' laser weaponry at enemy targets, subject to the combat, computer, and other applicable rules. Only laser weaponry may fire in this phase.

C. Intruder Laser Return Fire. The intruder may return fire with his laser weaponry at enemy ships which have fired on him, provided his return fire computer program is running during this phase, and in accordance with the computer program and combat rules. Anti-missile fire may be performed in this phase if the appropriate computer program is running.

D. Native Ordnance Launch. The native may launch ordnance (missiles and/or sand) at enemy targets or on specific missions, subject to the applicable rules. Ordnance which has contacted enemy ships explodes in this phase. Lifeboats and ship's vehicles are launched in this phase.

E. Native Computer Reprogramming. The native may remove computer programs from his on-board computer, and input other programs in anticipation of their use in later turns.

Game Turn Interphase—

The end of one game turn is marked. All non-player items such as planets, worlds, and satellites move in accordance with the rules. Other miscellaneous activity may also be necessary. The game then proceeds to the movement and combat of the next game turn.

Suleiman (Type S)		
1. M-Drive (A, 2G)	Model/1	
2. J-Drive (A, Jump-2)	CPU = 2	
3. Power Plant (A)	Storage = 4	
4. Fuel (40)		
5. Hold (3 tons, plus Air/Raft)	1-Target	1-Auto/Evade
6. Bridge (Pilot-1)	1-Return Fire	2-Anti-Missile
	1-Launch	1-Jump-1
T-1 (B,M) Gunner-1	1-Predict-1	2-Jump-2
five missiles on board	1-Navigate	1-Library

Ship's
Data Card
Example

COMPUTER SOFTWARE LIST

SpaceMcr Program Title and Effects

Offensive Programs—

			Skills	Throw	Two Dice
1	2.	Predict-1; +1 on to hit throw	1, Navig-1	10+	2
2	4.	Predict-2; +2 on to hit throw	1, Navig-2	10+	3
1	6.	Predict-3; +2 on to hit throw	1, Navig-3	10+	4
3	8.	Predict-4; +3 on to hit throw	1, Navig-4	11+	5
2	10.	Predict-5; +3 on to hit throw	2, Navig-5	10+	6
1	1.	Gunner Interact; adds gunner expertise	2, Gunnery-2	11+	7
1	1.	Target; required in order to fire turrets	2, Navig-2	10+	8
1	0.5	Select-1; allows target selection but -2 to hit	1, Gunnery-2	9+	9
2	0.8	Select-2; as select-1 but -1 to hit	2, Gunnery-3	9+	10
1	1.	Select-3; as select-1 but no hit penalty	3, Gunnery-4	9+	11
1	1.	Multi-Target-2; allows engagement of 2 targets	2, Gunnery-2	9+	12
2	2.	Multi-Target-3; allows engagement of 3 targets	2, Gunnery-3	10+	13
4	3.	Multi-Target-4; allows engagement of 4 targets	3, Gunnery-4	8+	14
1	2.	Launch; allows launch of missiles and sand	1, Gunnery-2	11+	15
4	4.	Double Fire; allows firing twice	2, Engineer-3	11+	

Defensive Programs—

1	1.	Maneuver/Evade-1; -¼ pilot skill	1, Pilot-2	10+
2	2.	Maneuver/Evade-2; -½ pilot skill	1, Pilot-3	11+
3	3.	Maneuver/Evade-3; -¾ pilot skill	2, Pilot-4	10+
4	4.	Maneuver/Evade-4; - pilot skill	2, Pilot-5	11+
2	5.	Maneuver/Evade-5; - pilot skill	3, Pilot-6	10+
3	6.	Maneuver/Evade-6; -5	3, Pilot-7	11+
1	0.5	Auto/Evade; -2	2, Pilot-4	11+
1	0.5	Return Fire; automatic response if attacked	2, Gunnery-3	12+
2	1.	Anti-Missile; allows laser anti-missile fire	3, Gunnery-3	10+
3	4.	ECM; may explode incoming missiles	4, Electronics-3	9+

Routine Programs—

1	0.1	Maneuver; allows use of maneuver drive	1, Pilot-1	9+
1	0.1	Jump-1; allows use of jump-1	1, Pilot/Navig-1	10+
2	0.3	Jump-2; allows use of jump-2	2, Pilot/Navig-2	11+
3	0.4	Jump-3; allows use of jump-3	2, Pilot/Navig-3	12+
4	0.5	Jump-4; allows use of jump-4	3, Pilot/Navig-4	11+
5	0.6	Jump-5; allows use of jump-5	3, Pilot/Navig-5	12+
6	0.7	Jump-6; allows use of jump-6	4, Pilot/Navig-6	11+
1	0.4	Navigation; controls use of jump drive	3, Navig-3	10+
1	0.8	Generate; produces flight plans for jump	3, Navig-4	10+
1	0.1	Anti-Hijack; helps prevent hijacking	1, Tactics-1	9+
1	0.3	Library; contains local information	1, no others	4+

Standard Software Packages: Each computer comes with a standard software package of programs for use with the equipment. Because each computer may be used differently, this package consists of a credit in MCr equal to the model number of the computer (treat 1bis and 2bis as 1 and 2 respectively). This credit may not be converted to cash.

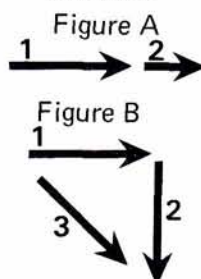
DETECTION

Commercial or privately owned ships can detect other ships up to one-half light-second (1,500mm) away.

Military or scout ships can detect other ships up to two light-seconds (6,000mm) away.

Tracking: Once detected, a vessel can be tracked by another ship up to three light-seconds (9,000mm) away.

VECTORS



STARSHIP ENCOUNTERS

Starport Type	A	B	C	D	E	X
2	—	—	—	—	—	—
3	—	—	—	—	—	—
4	—	—	—	—	K	—
5	—	—	—	—	—	L
6	S	A	—	L	—	—
7	A	S	R	K	—	—
8	R	A	A	S	—	—
9	M*	R*	R*	SP	S	T
10	Y	M	TP	A	A	TP
11	T	R	T	R	TP	CP
12	R*	C*	Y	M	CP	C
13	M*	Y*	A	Y	—	—
14	C*	T*	S*	TP	—	—
15	T*	C*	Y*	—	—	—

Roll for starship encounters when entering or leaving a system. Ship types are shown below. The suffix P indicates a pirate vessel; an asterisk (*) indicates that a small craft encounter occurs in addition.

DMs: +2 if naval base in system; +1 if scout base in system.

Starships—

A	200-ton Free Trader
K	200-ton Safari Ship
L	400-ton Laboratory Ship
C	800-ton Mercenary Cruiser
M	600-ton Subsidized Liner
R	400-ton Subsidized Merchant
S	100-ton Scout/Courier
T	400-ton Patrol Cruiser
Y	200-ton Yacht

STANDARD SMALL CRAFT

Die	Craft
0	20-ton Launch
1	30-ton Ship's Boat
2	30-ton Slow Boat
3	40-ton Pinnace
4	40-ton Slow Pinnace
5	50-ton Cutter
6	95-ton Shuttle
7	10-ton Fighter

DMs: +1 if naval base in system; -1 if scout base in system.

SPECIAL RULES

Missile Detonation: Missiles inflict 1D (1 to 6) hits when they detonate. From those hits, each hit location and hit effect is determined separately.

Shifting Fire: Once a target is designated, a ship which shifts fire to another target in the same turn is subject to a DM of -6 to hit for the remainder of the turn.



First, the firing player selects the target at which the turrets of a single ship will fire. All lasers from one turret must fire on the same target; lasers from different turrets may fire on different targets if a multi-target program is running and allows such activity. The firing player then designates the targets for the rest of his ships.

Second, the firing player determines all applicable attack DMs and sums them to create one specific DM which he will use. Because of differences in ships, he may create one DM for each ship involved. Most attack DMs are the result of computer programs, but some may be forced by ship damage.

Third, the target player determines all applicable defense DMs and sums them to create a single defense DM to be used against the enemy fire. Defense DMs result from such circumstances as obscuring sand, range, or defensive programs.

Fourth, two dice are thrown, and that result modified by both the attack and defense DMs. If the modified result equals or exceeds 8, a hit is achieved. The dice throw is made once for each firing laser weapon. The total number of hits is noted.

Fifth, each hit received is located on the target ship. Using another two dice throw for each hit, the hit location table is consulted, and a specific effect is obtained and marked on the ship data card.

Laser fire is possible only for the phasing player, and hits are imposed on the target ship immediately. Return fire occurs in the following phase, and may be conducted only by ships which are capable of doing so after this phase.

Shifting Fire: Each firing ship must allocate its fire to a specific target before any ship has actually fired. Such allocation may be changed (shifted) if the target is destroyed before any weapons on the attacking ship have fired, but such a shift is subject to a DM of -6 in addition to all other applicable DMs.

LASER RETURN FIRE

Laser return fire is conducted by those ships which have been targets for laser fire from enemy weaponry in the preceding laser fire phase. Both the target and return fire programs must be in the CPU for return fire to be performed. Laser return fire may only be directed at an enemy ship which fired at this ship. Laser return fire may be made against multiple enemy ships only if the multi-target program is also present.

Anti-missile fire also takes place in the laser return fire phase. It is dependent on the anti-missile fire program. For anti-missile fire to be performed, no target program is necessary.

ORDNANCE LAUNCH

During the ordnance launch phase, missiles or sand (or both) may be launched, provided both launch and target programs are running. In addition, lifeboats or ship's vehicles may be launched (without programs being necessary) as desired.

During the ordnance launch phase, missiles or sand which contacted a target in the preceding movement phase now explode or take effect.

Ordnance must be specified as launched during the launch phase, and only one missile or sand canister may be launched from a launch rack or sandcaster. The launched item does not actually move until the following friendly movement phase. All ordnance which is launched has the launching ship's vector, which must be taken into account.

Reloading: Each launcher (sand or missile) has an inherent capacity for three missiles or canisters. This means that a triple turret with three missile launchers has a total of 9 missiles in ready position.

When a launcher's missiles or canisters are exhausted, it may be reloaded by the turret's gunner in one turn. Reloading three launchers would take three turns. A gunner engaged in reloading is unable to fire other weaponry in the turret.

Missile Detonation: Ordnance which impacts a target in a movement phase, and which then survives anti-missile fire, detonates in the ordnance launch phase. This detonation will inflict 1 to 6 hits depending on the range at detonation. For each missile, throw one die. The result is the number of hits inflicted; each resulting hit location is determined separately.

DETECTION

Ordinary or commercial starships can detect other ships out to a range of about one-half light-second, about 1,500 millimeters. Military and scout starships have detection ranges out to two light-seconds, 6,000 mm or 6 meters.

Ships which are maintaining complete silence cannot be detected at distances of greater than half detection range; ships in orbit around a world and also maintaining complete silence cannot be detected at distances greater than one-eighth detection range. Planetary masses and stars will completely conceal a ship from detection.

Tracking: Once a vessel has been detected, it can be tracked by anyone up to three light-seconds (about 9,000 mm, or 9 meters).

DAMAGE DEFINITIONS

Once combat results in hits against a vessel, the damage must be implemented. The precise portion of a ship affected by hits is determined from the hit location table. Separate columns are provided for starships, non-starships, and small craft. The following instructions detail the manner in which damage affects ships.

Drives and Power Plants: Each hit achieved on a drive or power plant reduces its letter classification by one. Thus C becomes B, X becomes W, etc. The potential of the drive or power plant is then computed based on its temporary new letter. Note that the letter rating of a power plant must equal or exceed that of a maneuver or jump drive in order for the drive to function.

A drive or power plant which is reduced to a level of the maximum drive potential table where its capabilities are marked with a dash cannot function; a drive or power plant reduced to less than A is destroyed, and must be replaced rather than repaired.

Turrets: Each turret hit incapacitates a turret, preventing it and its weaponry from functioning. In cases where multiple hits occur on a ship with more than one turret, roll dice to determine randomly which turret or turrets are hit. A turret may be hit more than once, while another may not be hit at all.

Hull: A hull hit decompresses the ship's hull. Further hull hits have no effect.

Hold: A hold hit allows potential damage to items in the hold, including ship's vehicles and small craft, as well as cargo. Each hit destroys ten tons of cargo, or one vehicle, or one small craft. Roll dice to determine randomly which items are damaged.

Fuel: Each fuel hit punctures a fuel tank, and releases about 10 tons of fuel. When sufficient fuel hits have been inflicted to reduce the remaining fuel to less than is required for a jump, the vessel may not make a jump; when all fuel is accounted for, the vessel may not use its maneuver drive or fire its lasers.

Computer: Each hit on the computer increases its chance of malfunctioning. The basic throw for a computer to operate in any situation is 1+, indicating extreme reliability. Each hit on the computer serves as a DM of -1 on the throw to operate. Thus, after three hits are inflicted on the computer, a DM of -3 is applied to the throw of 1+ to operate. The throw to operate is made each time the computer is used (in combat, this is generally once per phase). A computer which does not make its throw to operate malfunctions for the remainder of the phase. A new throw is made at the beginning of the next phase. A computer which has received 12 hits is permanently malfunctioning. Persons with computer expertise may apply their skill levels as DMs on the throw to operate. A computer which is not operating effectively paralyzes a starship.

A computer hit on a small craft which does not have one is treated as a hit on the craft's drives instead.

Small Craft Cabin: A hit on a small craft cabin results in explosive decompression if depressurization has not already occurred. Additional hits have no effect. Persons in vacc suits within the craft are unaffected.

Small Craft Weaponry: A hit on the weaponry of a small

craft destroys that weaponry. Additional hits have no effect.

Small Craft Drive: A hit on the drive of a small craft destroys the drive; the craft cannot maneuver, accelerate, or fire its lasers.

Hits as a result of laser fire, laser return fire, or missile detonation are located on the target vessel through the use of the hit location table. Such damage as indicated above is then marked on the ship's data card.

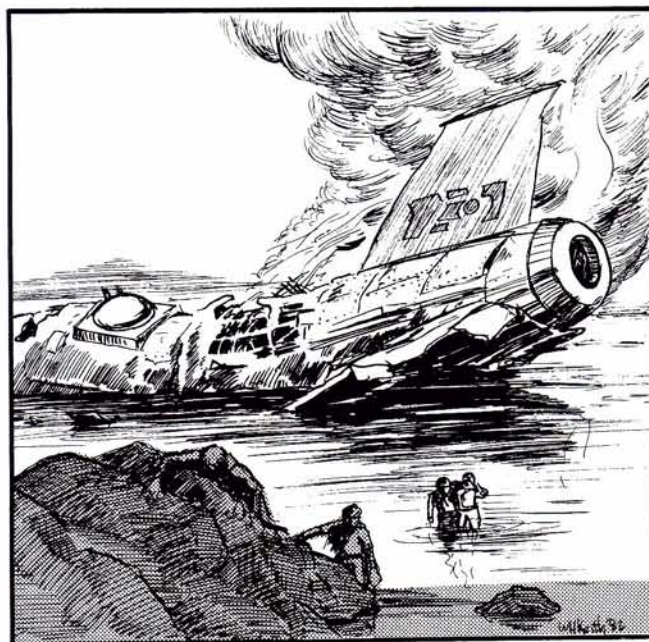
If a select program is being used to influence attacks, the firing player rolls one die for each hit inflicted. On a roll of 1 or 2, he or she picks the hit location, specifying one of the following: maneuver, power plant, jump, fuel, hull, hold, computer, or turret. If the roll is 3 or greater, roll hit location normally.

Damage to ships gradually wears away their capabilities, but will not generally destroy them in one shot. The exception to this is the critical hit. If a critical hit is achieved, then the critical hit table is consulted with one die. The result is complete destruction or incapacitation of the indicated item. Unlike ordinary hits, the entire item is destroyed (crew is not necessarily killed, but is rendered unable to function).

SPECIAL SITUATIONS

The following are descriptions of several special situations and how they may be handled when they arise. In addition to the specific instructions given, they also serve as a model for dealing with other special situations.

Decompression: Vessels depressurize their interiors before combat whenever possible, the passengers and crew resorting to vacc suits for safety and comfort. This procedure minimizes the danger due to explosive decompression as a battle result. In some cases, selected areas may remain pressurized (perhaps the hold, for the safety of delicate cargo) while other areas are depressurized.



Any number of areas in the ship may be depressurized in the span of one turn (1,000 seconds). Repressurization requires one turn. In practice, the following parts of the ship may be individually pressure regulated: engineering section, hold, bridge, staterooms (all as one group; on some ships, in groups of four or more), turrets (individually). The pilot controls depressurization from the bridge.

Hull hits result in explosive decompression if pressure has not already been lowered. Explosive decompression kills all persons in that section unless a vacc suit is available and put on immediately. Throw dexterity or greater to put on a vacc suit in an emergency; apply DMs of double vacc suit skill.

Atmospheric Braking: Ships passing very close to the surface of a world with a standard or dense atmosphere may slow their speed through atmospheric braking. If any portion of a ship's vector passes within 10 mm of a world's surface, that vector is reduced by 10 mm in length.

Abandon Ship: Should circumstances warrant, a ship may be abandoned using ship's vehicles or other methods. Military vessels (including exploratory vessels) can generally board the full passenger and crew complement of their ship's vehicles in one turn, and launch them during the ordnance phase, provided those individuals perform no other activity during the turn. If individuals are encumbered by vacc suits, each boards in the first turn on a throw of 6+, boarding in the next turn if unsuccessful.

Non-military vessels require 1D turns to fully load all ship's vehicles. Crew members in the vehicles may elect to abandon ship without waiting for stragglers.

Individuals in vacc suits may abandon ship during the ordnance launch phase providing no other activity is performed during the player turn. Such persons may then be picked up by other ships or vessels. If no one is available to perform a rescue, then an attempt at landing on a local world is possible. A vacc suit can support its occupant for up to 21 one-thousand second turns; an additional air tank set will provide another 21 one-thousand second turns. A typical vacc suit is capable of a total of 100 mm of acceleration. A foamed atmospheric re-entry ablation shield (part of the vacc suit kit) can protect the individual while entering atmosphere, provided his vector, while entering atmosphere, does not exceed 75 mm. Accident or mishap can occur during the process. Throw 7+ to survive provided all else is performed properly; allow a DM of + vacc suit skill.

Damage Control: Damage inflicted on starships in combat can be repaired or controlled by crew members during the battle. Especially in the case of player characters, expertise or skill in specific fields may be used to remove or repair damage. Usually, a throw of 9+ will repair one hit of damage, with skill serving as a positive DM. One repair attempt may be made per one-thousand second turn. Any part of a ship which has been completely destroyed cannot be repaired.

Repair Parts: Most malfunctioning or damaged items in a vessel can be temporarily repaired from the stock of emergency materials in the ship's stores. Malfunctions usually occur in terms of a specific assembly (ship's computer, jump drive, etc.), and the cost of the repair is based on the

cost of the original assembly. After determining the cost of the assembly (from the component cost section of these rules), roll two dice: this indicates the cost of replacement of the item in 10% increments; allow a DM -2 if the repair installation will be made by ship's crew rather than a shipyard. Because the repair cost can run to 120% in some cases, complete replacement of the item is sometimes cheaper. In the case of minor malfunctions, DMs may be applied to the repair cost throw as considered appropriate. Repair parts cost of 0% is considered to be inconsequential.

STARSHIP ENCOUNTERS

When a starship enters a system, there is a chance that it will encounter any one of a number of different ships going about their business. Very often, the exact encounter is the responsibility of the referee; for routine encounters, or for inspiration, the starship encounter table is provided.

The table classifies each system by the starport within it. Two dice are rolled and modified by the presence of scout or naval bases in the system. If a dash is shown on the table, then there is no encounter. The letter codes indicate the various types of standard design ships described earlier in this book. The referee should examine the specific type of ship involved and determine the precise nature of the encounter. Free traders may want to swap rumors and gossip; scouts may want information; patrol cruisers may want to inspect for smugglers.

The suffix P on any ship type can be construed as pirate; such a ship will probably attack, or at least try to achieve a position where it can make the attempt.

It is also possible to encounter a variety of small craft in a system. If an asterisk appears on the table entry, a small craft has also been encountered. Roll one die and consult the standard small craft table. This encounter may occur before or after the large ship encounter.

The referee may want to use the reaction table from the chapter on encounters to determine the precise reaction of any type of ship and crew.

PLANETARY TEMPLATES

A planetary template must be constructed for each world or moon present in the scenario, showing the size of the planet itself and of its zones of various gravitational strengths. All required information may be generated using the formulae below. D is the planetary size from the UPP; R is its radius in millimeters (hundreds of kilometers); M is its mass in Earth masses; G is gravity in Gs at various distances from its center (and G_s is its surface gravity); K is its density in Earth densities (most planets will have a density of 1); L is the distance from the planetary center at which gravity equals the value of G for a planet of mass M (when G is set equal to G_s , L should equal R). The planetary template is constructed in the following steps.

Step 1. Using the known values of D and K, compute the values of R, M, and G_s .

Step 2. Compute several values of L, for several values of G, beginning at 0.25 and increasing in increments of 0.25 until the value of G equals or exceeds G_s (that is, until L is equal to or less than R).

Step 3. Using a compass and ruler, draw concentric circles on a paper or cardboard template. Indicate the planetary surface by drawing a circle of radius R . Then draw further circles around the same center with radius equal to each value of L determined in step 2. Each circle should be labeled, and the interior of the planetary disc should be marked with the planet's name, its mass, density, G_s , and any other data the referee thinks useful.

As an example of this process, here is how to determine a template for Earth:

Step 1. Earth has a diameter (D) of 8 and a density (K) of 1.0; thus, $R=8 \times 8$ or 64mm, $M=1.0 \times (8/8)^3$ or 1 Earth mass (surprise!), and $G_s=1.0 \times 8/8$ or 1G.

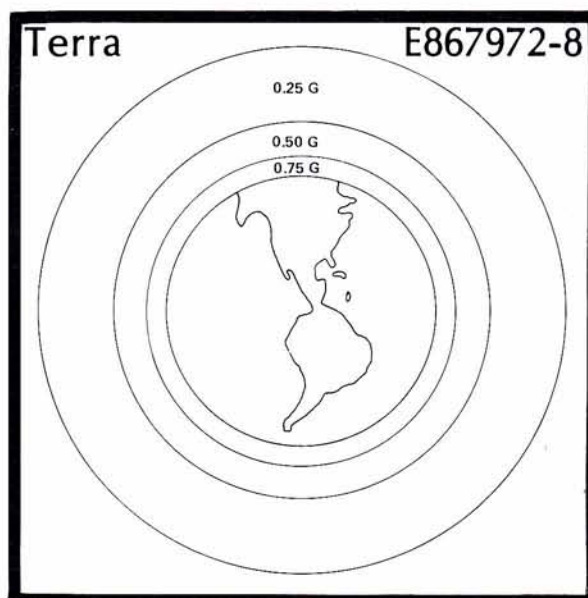
Step 2. Since $G_s=1$, it is necessary to determine L for G -values of 0.25, 0.50, and 0.75. At $G=0.25$, $L=64 \times$ the square root of $1/0.25$ or 128mm; at $G=0.50$, $L=64 \times$ the square root of $1/0.50$ or 91mm; at $G=0.75$, $L=64 \times$ the square root of $1/0.75$ or 74mm.

Step 3. The template is now drawn using the derived values. Four concentric circles are drawn: one of radius 64mm for the planet's surface, and one each of radii 74, 91, and 128mm for G -values of 0.75, 0.50, and 0.25 respectively.

Some Notes of Interest: In the scale presented for miniatures combat, there should generally be at most one world or moon of appreciable size on the average size playing surface. The Earth's moon is 380,000 km from Earth, a scale separation of 3.8 meters. However, a ship travelling at reasonable game speeds can cross this distance in only a few turns; thus, it will be necessary to shift positions of templates frequently as a battle progresses.

A template for the sun, if anyone cared to do one, would be almost 74 meters in radius (out to the $G=0.25$ circle); the physical surface of the sun would have a radius of 7 meters.

Asteroids, planetoids, and small moons such as those of Mars have no significant gravity or atmospheres, and would be essentially pinpoint-sized at this scale. The average density of an asteroid belt is about one asteroid per 1000 square millimeters (approximate separation: 30 millimeters) or 1000 asteroids per square meter. Asteroids should probably be placed on a template for ease of shifting.



$$R=8D$$

$$G_s = K D/8$$

$$M = K(D/8)^3$$

$$L = 64 \sqrt{M/G}$$

The sample planetary template on this page shows Terra (the Earth) complete with gravity bands for 0.25, 0.50, and 0.75 Gs. Noted next to the world on the template are the universal planetary profile (see Worlds) and the world name. If you are going to construct templates for specific worlds, then the inclusion of continental outlines or other surface features may prove interesting.

Formulae: The four formulae shown under the sample planetary template indicate how to achieve the information needed for producing any planetary template.

Typical Worlds: The standard worlds table shows the template values (in millimeters) for world sizes (D) of one through ten, with K assumed to be 1. In addition, the four gas giants of the solar system are listed for reference.

STANDARD WORLDS

Size	R	M	K	G_s	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
One	8	0.002	1	0.125	—	—	—	—	—	—	—	—
Two	16	0.016	1	0.250	16	—	—	—	—	—	—	—
Three	24	0.053	1	0.375	29	—	—	—	—	—	—	—
Four	32	0.125	1	0.500	45	32	—	—	—	—	—	—
Five	40	0.244	1	0.625	63	45	—	—	—	—	—	—
Six	48	0.422	1	0.750	83	59	48	—	—	—	—	—
Seven	56	0.670	1	0.875	105	74	60	—	—	—	—	—
Eight	64	1.000	1	1.000	128	91	74	64	—	—	—	—
Nine	72	1.424	1	1.125	153	108	88	76	—	—	—	—
Ten	80	1.953	1	1.250	179	126	103	89	80	—	—	—
Jupiter	705	317.9	0.238	2.621	2282	1614	1318	1141	1021	931	863	807
Saturn	581	95.1	0.128	1.157	1248	883	721	624	—	—	—	—
Uranus	259	14.5	0.219	0.887	487	344	281	—	—	—	—	—
Neptune	246	17.2	0.303	1.160	530	375	306	265	—	—	—	—

Jupiter has two further bands: 2.25 at 761 and 2.5 at 722. R and G_s for the gas giants are average values. Their high rotational speeds and low rigidities make R higher and G_s lower at the equator, and R lower and G_s higher at the poles.

Worlds

The referee has the responsibility for mapping the universe before actual game play begins. The entire universe is not necessary immediately, however, as only a small portion can be used at any one time. In unsupervised play, one of the players can generate worlds and perform mapping on a turn by turn or adventure by adventure basis.

The universe is mapped in convenient segments, called subsectors. Each subsector is an area of hexagonal cells measuring eight hexes by ten hexes. Since the recommended scale is one parsec (3.26 light years) per hex, the subsector covers an area ten parsecs by eight parsecs. The subsector grid on page 13 is intended to be photocopied by the referee and filled in as worlds are generated. Additional copies can be made as mapping continues to other subsectors.

Sixteen subsectors (arranged in four rows of four subsectors each) form a sector, probably the largest size practical for a continuing *Traveller* campaign.

Mapping subsectors consists of two sequences: star mapping and world mapping. Star mapping examines each hexagon in the subsector grid and determines if there is a star system present. It also determines the presence or absence of starports, bases, and fuel for starships. All of this information is coded onto the subsector hexes, and serves as a guide to the referee and to the players during interstellar travel. World mapping examines the single most important world in each system and determines the basic characteristics for it. This information is retained for use in adventures on the world surface.

STAR MAPPING

In order to create a subsector, the referee uses a blank subsector grid and dice to determine the presence of systems, starports, and bases. The system hex format table shows the coding and placement of information about worlds within a subsector. This format should be used to allow players and referees to note the information that would normally be available to them. The referee may elect to omit some information, and only allow it to be inserted after the players have determined it themselves.

World Occurrence: There is a basic one-half chance normally that a world (and its attendant stellar system) will be in a hex. Systematically check each hex, throwing one die and marking the hex with a circle if the result is a 4, 5,

or 6. This indicates that a world is present; otherwise, leave the hex blank.

The referee may elect to alter the normal chances of worlds, making them more frequent or less frequent to correspond to specific regions of the galaxy. This is easily accomplished by imposing a DM of +1 or -1 on the whole subsector, or on broad areas within a subsector.

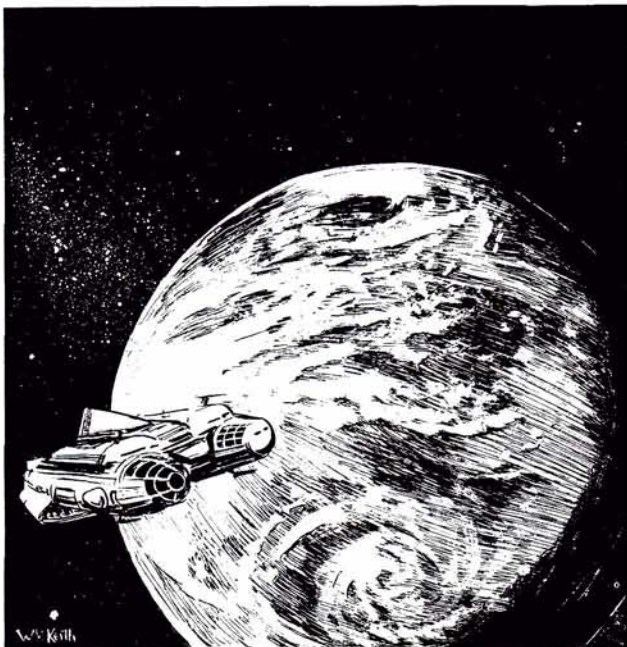
Starport Type: Many worlds have starports, their presence being essential to interstellar trade and commerce. Each world must be checked for its starport type; throw two dice for each world in the subsector, and mark the world with the letter indicated on the system contents table.

The system contents table indicates one specific distribution of starports as a basis for star mapping. Just as the distribution of stars can be altered (as indicated in world occurrence), the referee is also free to create other starport distributions.

Starports are further described in the starport types table. In many cases, starports will be accompanied by naval or scout bases, and will have a wide range of facilities. In nearly all cases, a planet will consider that a starport is extraterritorial, and not subject to local law, but will also enforce strict entrance and exit controls.

Bases: Stellar systems may have bases for military forces, the navy, the scouts, or for other arms of interstellar government. The system contents table indicates the die throws for specific types of bases to be present at a world, depending on the starport type. If a base is present, it should be marked in the hex in accordance with the world format.

Gas Giants: A star system may have one or more gas giant planets (similar to Jupiter or Saturn). The presence of a gas giant allows streamlined starships to refuel by skimming; this eliminates fuel cost for the vessel and increases profit. It also allows refueling at systems that do not have starports. Refueling in this fashion generally requires a week. Fuel acquired by skimming is unrefined.



Gas giants are relatively common. As indicated on the system contents table, throw 10+ for a gas giant not to be present in the system. If one is present, mark the system's hex in accordance with the world format.

System Name: Each system is generally named for the primary world within. This name should be decided upon by the referee and placed in the hex for identification.

Travel Zones: Most worlds are assumed to be civilized, or at least amenable to travellers and visitors. Some, however, are caught in the throes of war, plagued by disease, or simply not ready for interstellar visitors. Such worlds are classified by travel zones to denote such status. In most cases, the referee should indicate travel zones based on the information available. Two such zone types exist: amber and red.

Amber travel zones indicate that travellers should exercise caution when visiting such worlds. The amber code may mean that the citizens of the world are xenophobic, that the political situation is chaotic, or that some other danger exists within the system.

Red travel zones usually indicate that a major danger exists within the system. This danger may be disease and the world is quarantined. The system may be involved in a war, and surface or space battles may be probable. Red travel zones are also used to show a government edict prohibiting entry to the system or world. This may be to protect a local civilization which is still developing and not yet ready for interstellar contacts, or to protect valuable resources until the government can mine them.

Communications Routes: Within the subsector, local governments will have established communications or trade routes connecting some (but not all) worlds. These routes serve as a conduit for messages between businesses and between governments as well as between people. They also serve as the basic routes that liners and large freighters travel. The referee should examine the subsector map and connect key worlds with communications routes. If the subsector is an isolated community, the routes may not leave the map; if it is part of a larger confederation or empire, the routes will probably leave the edges to join with other parts of the sector.

Communications routes should be carefully drawn so as to avoid making all parts of the subsector accessible; a subsector should reserve some areas as backwaters for exploration and adventure. Communications routes are drawn as single lines connecting hexes on the subsector grid.

The star map, once generated, shows the distribution of star systems in space, and shows their relationships to each other in terms of relative distance and commercial space-lane connections.

WORLD CREATION

The term world refers to the various bodies that are contained in a stellar system; it encompasses planets, satellites, and asteroid belts. For example, the single most important world in a system may not be a planet; it could be a satellite of a gas giant, or it could be a planetoid within an asteroid belt.

The worlds contained in the star systems on the sub-



sector map may be further classified in terms of their gross physical characteristics and their effects on persons living on them or travelling to them. These characteristics (starport, six basics, plus a technological index) indicate specific facts about a world through the use of single digits (the numbers 0 through 9) and letters (A through Z, omitting O and I as they may be confused with numbers). In most cases, the instructions below concentrate on numbers, reserving letters for use by the referee to describe extraordinary situations.

This world creation process applies only to the single most important world in a star system; additional planets in a system should be generated by the referee as necessary.

The six basic planetary characteristics are generated using two-dice throws, with DMs applied based on other characteristics. After these six are established, a technological index is created from the information they contain and from the world's starport type. Starport type, the six basic characteristics, and tech level establish the basic identity of a world. Additional information can be generated, and should be, to more fully describe a world.

When originally generating a world, a subsector index containing world name, location, universal planetary profile, and other basic data should be compiled. This listing should be available to players who travel through the subsector.

In addition, each world should be allocated at least one (and preferably several) pages in a central notebook maintained by the referee. As characteristics are generated, they should be recorded along with the name of the world and its location (generally its subsector and hex number). In addition, the referee should generate other information which may be pertinent; this may include details of other planets in the star system, radiation characteristics of the star, the types of terrain present on the planetary surface, unique encounter tables (as prescribed by the section on animal encounters), data on flora and fauna, industrial or agricultural capacity, data on social structure and government, or possibly actual maps of the planetary surface.

The individual characteristics for worlds are produced by six two-dice throws, modified by circumstances and by previous characteristics. The specific throws are given in the world generation checklist, and in formula form below.

Starports (from starport table): The starport type has already been generated when the subsector was mapped, and the information should be noted from the map.

Planetary Size (2D-2): The digit representing planetary size indicates the diameter of the planetary sphere stated in thousands of miles. This size determines varying gravitational strengths and planetary templates for space combat.

Planetary Atmosphere (2D-7+size; if size 0 then atmosphere 0): The atmosphere digit represents the breathing environment encountered on the world. Some atmospheres require protective measures.

Hydrographic Percentage (2D-7+atmosphere; if size 0 then hydrographics 0; if atmosphere 0, 1, or A+, then apply DM -4): Hydrographics represents the percentage of planetary surface (in increments of 10%) covered by seas or oceans. For normal worlds, this will be water; on other worlds (with exotic, corrosive, or insidious atmospheres), it may instead be other liquids or fluids such as ammonia.

Population (2D-2): The digit indicating population is an exponent of 10. This may be viewed as the number of zeros following a one. Thus, a population digit of 6 indicates a population of approximately 1,000,000.

Planetary Government (2D-7+population): The digit representing planetary government indicates a range of possible ruling systems, from anarchy to totalitarianism. The planetary government table gives a brief precis of the general characteristics of each government type. Balkanization is a special result, and indicates that there is no world government; instead several rival territorial governments exist. In such cases, the referee should generate the specific qualities of each territory on the planet separately.

Law Level (2D-7+ government): The digit representing law level indicates the relative force of law extant on the world. Law level states local restrictions concerning the possession and use of weapons by individuals.

At times, the referee (or the players) will find combinations of features which may seem contradictory or unreasonable. Common sense should rule in such cases; players or the referee should generate a rationale which explains the situation.

Finally, the referee should always feel free to create worlds which have been deliberately (rather than randomly) generated. Often such planets will be devised specifically to reward or torment players.

TECHNOLOGICAL LEVEL

The degree of technological expertise, and thus the capabilities of local industry, depends greatly on the basic characteristics of a world. This technological index is generated based on a one die throw, modified by DMs dependent on planetary characteristics.

Consult the tech level table and compare the appropriate planetary digits with the descriptions; note all DMs indicated, and sum them to form one total DM. Throw one die, and modify the result, thus determining the local technological level. Note the result in the appropriate records.

World technological levels may vary from 0 to 20, more commonly ranging from 4 to 10. Higher numbers indicate greater capability. The technological level is used in conjunction with the technological level table to determine the general quality and capability of local industry. The tables indicate the general types or categories of goods in general use on the world. In most cases, such goods are the best which may be produced locally, although better goods may be imported by local organizations or businesses when a specific need is felt. Local citizenry will usually not be armed with weapons of a type which cannot be produced locally, although police or military may be. Tech level also indicates the general ability of local technology to repair or maintain items which have failed or malfunctioned.

The technological level tables have several spaces or holes, and such gaps should be filled in by the referee or the players when they discover items or devices of interest.

REFEREE'S NOTES

The purpose of the world generation sequence is to prod the imagination. Even the most imaginative individual soon loses brilliance in the face of creating hundreds of individual worlds. The procedure substitutes die rolls for random imagination and then allows the referee to use that information to determine specific world data. Imagination may be required to explain a tech level 4 civilization in an asteroid belt, or a high population world with a participating democracy for a government.

Characteristics for worlds should be construed as guidelines rather than strict limits. For example, a world with a hydrographic percentage of A is 100% ocean; nevertheless, the world would have small islands for a starport.

Starport: The various starport types are intended to provide a variety of facilities for use in trade or survey missions. Starports provide fuel or construction yards.

Bases: The tables provide for scout and naval bases at some worlds. These bases serve as points for scout and naval veterans to renew acquaintances with old friends, to find potential patrons, and to scrounge or buy surplus equipment of use to them. The referee may elect to include other types of bases, perhaps army bases, merchant exploration or trade bases, and defense establishments.

Travel Zones: The use of travel zones is intended to assist in designating areas to avoid and areas to explore. The referee should establish reasons for travel zones.

World Size: The generation tables assume that the world in question will be a solid matter sphere. Some alternatives are possible, although they are rare enough to require implementation by the referee. These include:

Rosettes: Three or more equal masses (worlds) set at the points of an equilateral polygon, and with the correct equal angular velocities about their center of mass, will have a stable orbital configuration; no central star is required. Rosettes almost never occur naturally.

Ringworlds: An incredibly strong band may be set rotating about a central star, making a ringworld which uses centrifugal force to provide a simulation of gravity. A ringworld at the distance of Earth's orbit and with a width of 1.6 million kilometers has a usable surface area of about three million Earths.

Spheworlds: Using materials similar to those in a ringworld, and adding gravity generators where necessary for strength and comfort, a spherical shell could be used to completely enclose a star. Such a shell would then trap all stellar radiation for use by the civilization. With a radius of about 93 million miles, the internal surface area would equal about one billion Earths.

Atmosphere: The various atmosphere types require specific personal equipment for survival and protection.

Vacuum or trace atmospheres require use of a vacc suit.

Tainted atmospheres require the use of filter masks.

Very thin atmospheres require the use of compressors to insure sufficient oxygen. Tainted very thin atmospheres require a combination respirator/filter mask for survival.

Thin, standard, and dense atmospheres are breathable without assistance.

Exotic atmospheres require the use of oxygen tanks, but protective suits are not needed.

Corrosive atmospheres require the use of protective suits or vacc suits.

Insidious atmospheres are similar to corrosive atmospheres, but will defeat any personal protective measures in 2 to 12 hours.

Hydrographics: It is possible that some worlds with vacuum atmospheres may have hydrographic percentages greater than 0. In such cases, the world has ice-caps present; the water will not be free-standing liquid.

Population Density: For comparison, the following population densities are common on twentieth century Earth. Earth on the whole has a population of about three billion (population level 9); this is approximately 5 persons per square mile, or 16 persons per square mile of land area. Europe is populated at about 151 persons per square mile, the equivalent of population level 10. The Netherlands contain 1500 persons per square mile, or about population level 11. Hong Kong has 10,000 persons per square mile, the equivalent of population level 12.

Government: Government types are intended to convey the general type of authority on the world; each listed type should be a clue to the referee in administering details of encounters on the world.

Law Level: Law level is an indication of the relative oppressiveness of the world. The digit is classified on the law level table to show prohibitions against weapons. It is also the throw (law level +) to avoid being harassed or arrested by local authorities.

Tech Level: The technological level of a world determines the quality and sophistication of the products of a world. It indicates what precise types of equipment are available and common locally.

TRADE CLASSIFICATIONS

Additional details of a specific world can be expressed by the trade classification and statements about the world. The referee should be ready to establish new classifications when appropriate.

The term trade classification is a general catch-all phrase that covers world attributes which influence trade and commerce, and other information that is of interest to travellers. Some trade classifications influence the trade and

commerce table.

Agricultural worlds have large portions of their economies devoted to agriculture. They must have an atmosphere of 4 through 9, hydrographic percentage of 4 through 8, and a population of 5 through 7.

Non-agricultural worlds import much of their food from off-planet. While such a world may produce synthetic foodstuffs for local consumption, it probably imports quality foods as luxury items. A nonagricultural world must have an atmosphere of 3 or less, a hydrographic percentage of 3 or less, and a population of 6 or more.

Industrial worlds have large production bases and engage in the manufacture of finished goods. Such a world must have an atmosphere of 0, 1, 2, 4, 7, or 9 (vacuum, trace, or tainted), and a population of 9 or greater.

Non-industrial worlds are forced to import much of their finished goods. Non-industrial worlds must have a population of 6 or less.

Rich worlds have good climates and environments and are sought after by most individuals as living places. A rich world must have government type 4 through 9, an atmosphere of 6 or 8, and a population of 6 through 8.

Poor worlds are undeveloped and marginal backwaters. A poor world must have an atmosphere of 2 through 5 and a hydrographic percentage of 3 or less.

Water worlds are totally covered by seas and oceans (a hydrographic percentage of A).

Desert worlds have no standing water (a hydrographic percentage of 0) and atmosphere of 2+.

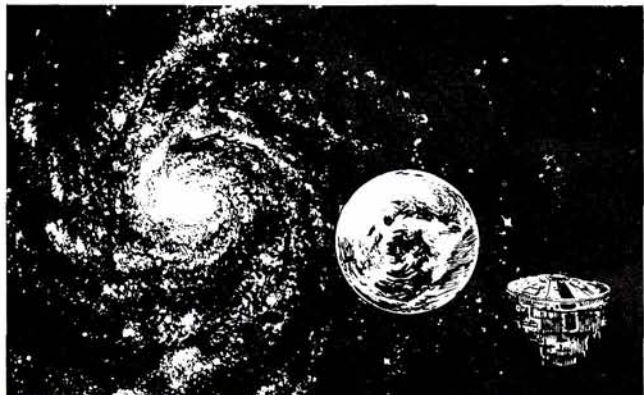
Vacuum worlds have no atmosphere (an atmosphere of 0).

Asteroid belts consist of small planetoids around the central star of the system. An asteroid belt has a size of 0.

Ice-capped worlds have water present only in the form of ice caps; these are vacuum worlds which would otherwise have no water. An ice-capped world has an atmosphere of 0 or 1 and a hydrographic percentage of 1 or greater.

Subsector capital is the term given to the single most important world in the subsector, especially if the entire sector is under one interstellar government. Capital is the term given to a world which is the seat of an interstellar government. If there are several interstellar governments within a subsector, each will probably have a capital. Capital designations are assigned by the referee.

Other notations are possible as well. The referee may elect to note the presence of prison worlds, exile worlds, preserves or reserves for various purposes, and so on.



SYSTEM CONTENTS TABLE

Die Roll	Starport	Naval Base	Scout Base	Gas Giant
2	A	no	no	yes
3	A	no	no	yes
4	A	no	no	yes
5	B	no	no	yes
6	B	no	no	yes
7	C	no	yes	yes
8	C	yes	yes	yes
9	D	yes	yes	yes
10	E	yes	yes	no
11	E	yes	yes	no
12	X	yes	yes	no

Roll once for each column.

Scout Base: Apply DM -1 if starport C; -2 if starport B; and -3 if starport A. Do not roll if starport E or X.

Naval Base: Do not roll if starport C, D, E, or X.

STARPORT TYPES

Type Description
A Excellent quality installation. Refined fuel available. Annual maintenance overhaul available. Shipyard capable of constructing starships and non-starships present. Naval base and/or scout base may be present.

B Good quality installation. Refined fuel available. Annual maintenance overhaul available. Shipyard capable of constructing non-starships present. Naval base and/or scout base may be present.

C Routine quality installation. Only unrefined fuel available. Reasonable repair facilities present. Scout base may be present.

D Poor quality installation. Only unrefined fuel available. No repair or shipyard facilities present. Scout base may be present.

E Frontier Installation. Essentially a marked spot of bedrock with no fuel, facilities, or bases present.

X No starport. No provision is made for any ship landings.

TRAVEL ZONES

Worlds may be classified as travel zones green, amber, or red. Green is usually not noted or stated.

Green: No particular danger or problem for travellers.

Amber: Caution advised for traveller; local conditions may pose danger or delay.

Red: Prohibited to travellers; local conditions can involve death or injury.

SIZE

Digit	Description
0	Asteroid/Planetoid Belt.
1	1000 miles (1600 km).
2	2000 miles (3200 km).
3	3000 miles (4800 km).
4	4000 miles (6400 km).
5	5000 miles (8000 km).
6	6000 miles (9600 km).
7	7000 miles (11200 km).
8	8000 miles (12800 km).
9	9000 miles (14400 km).
A	10000 miles (16000 km).

Note: World sizes greater than A (16,000 km) may be created by the referee and assigned special letter codes. Such worlds may be simply larger, or they may be of special or notable types.

ATMOSPHERE

Digit	Description
0	No atmosphere.
1	Trace.
2	Very thin, tainted.
3	Very thin.
4	Thin, tainted.
5	Thin.
6	Standard.
7	Standard, tainted.
8	Dense.
9	Dense, tainted.
A	Exotic.
B	Corrosive.
C	Insidious.

Note: Atmosphere types may require protective clothing. The precise requirements are given in the text.

HYDROGRAPHICS

Digit	Description
0	No free standing water.
1	10% water.
2	20% water.
3	30% water.
4	40% water.
5	50% water.
6	60% water.
7	70% water.
8	80% water.
9	90% water.
A	No land masses.

Note: Worlds with no water are considered desert worlds if they have atmosphere 2+. Worlds with hydrographic percentage A are water worlds. Worlds with atmosphere 0 or 1 and hydrographic percentage greater than 0 are ice-capped.

POPULATION

Digit	Description
0	No inhabitants.
1	Tens of inhabitants.
2	Hundreds of inhabitants.
3	Thousands of inhabitants.
4	Tens of thousands.
5	Hundreds of thousands.
6	Millions of inhabitants.
7	Tens of millions.
8	Hundreds of millions.
9	Billions of inhabitants.
A	Tens of billions.

The population digit is an exponent of 10. The actual population of a world may range from the exact equivalent of the population digit to just below the next higher population digit.

LAW LEVEL

Digit	Description
0	No prohibitions.
1	Body pistols undetectable by standard detectors, explosives (bombs, grenades), and poison gas prohibited.
2	Portable energy weapons (laser carbine, laser rifle) prohibited. Ship's gunnery not affected.
3	Weapons of a strict military nature (machine guns, automatic rifles) prohibited.
4	Light assault weapons (sub-machineguns) prohibited.
5	Personal concealable firearms (such as pistols and revolvers) prohibited.
6	Most firearms (all except shotguns) prohibited. The carrying of any type of weapon openly is discouraged.
7	Shotguns are prohibited.
8	Long bladed weapons (all but daggers) are controlled, and open possession is prohibited.
9	Possession of any weapon outside one's residence is prohibited.
A	Possession of any weapon is prohibited.

Law levels include the restrictions of lower-numbered law levels. Law levels greater than A indicate a higher probability of police harassment.

Law level is also the general throw to avoid harassment by police or other law enforcement agencies. For example, on a world with law level 4, the throw to avoid arrest when encountering an enforcement agent such as a customs official or policeman is 4+.

GOVERNMENT

Digit Description

- 0 No government structure. In many cases, family bonds predominate.
- 1 Company/Corporation. Government by a company managerial elite; citizens are company employees.
- 2 Participating Democracy. Government by advice and consent of the citizen.
- 3 Self-Perpetuating Oligarchy. Government by a restricted minority, with little or no input from the masses.
- 4 Representative Democracy. Government by elected representatives.
- 5 Feudal Technocracy. Government by specific individuals for those who agree to be ruled. Relationships are based on the performance of technical activities which are mutually beneficial.
- 6 Captive Government. Government by a leadership answerable to an outside group; a colony or conquered area.
- 7 Balkanization. No central ruling authority exists; rival governments compete for control.
- 8 Civil Service Bureaucracy. Government by agencies employing individuals selected for their expertise.
- 9 Impersonal Bureaucracy. Government by agencies which are insulated from the governed.
- A Charismatic Dictator. Government by a single leader enjoying the confidence of the citizens.
- B Non-Charismatic Leader. A previous charismatic dictator has been replaced by a leader through normal channels.
- C Charismatic Oligarchy. Government by a select group, organization, or class enjoying the overwhelming confidence of the citizenry.
- D Religious Dictatorship. Government by a religious organization without regard to the needs of the citizenry.

WORLD GENERATION CHECKLIST

- Determine world occurrence (1D for 4, 5, 6 is standard).
- Check system contents table.
 - Find starport type.
 - Check for naval base.
 - Check for scout base.
 - Check for gas giant.
- Name world.
- Decide if travel zone coded.
- Establish communications routes.
- Generate universal planetary profile for world.
 - Note starport type.
 - Planetary size: 2D-2.
 - Planetary atmosphere: 2D-7 +size. If planetary size is 0, the atmosphere must be 0.
 - Planetary hydrographics: 2D-7 +size. If planetary size is 0 or 1, then hydrographics must be 0; if atmosphere is 0, 1, or A+, then apply a DM of -4.
 - Population: 2D-2.
 - Government: 2D-7+population.
 - Law level: 2D-7+government.
 - Technological Level: 1D+DMs from tech level table.
- Note trade classifications (page 16) based on universal planetary profile.
- Note statistics for reference.
- Map system on subsector map grid.

TECH LEVEL TABLE

Star-Digit	port	Size	Atm	Hyd	Pop	Govt
0		+2	+1	—	—	+1
1		+2	+1	—	+1	—
2		+1	+1	—	+1	—
3		+1	+1	—	+1	—
4		+1	—	—	+1	—
5		—	—	—	+1	+1
6		—	—	—	—	—
7		—	—	—	—	—
8		—	—	—	—	—
9		—	—	+1	+2	—
A	+6	—	+1	+2	+4	—
B	+4		+1			—
C	+2		+1			—
D	—		+1			-2
E	—		+1			—
F						—
X	-4					

Determine DMs from this table and apply them to 1D to find tech level.

Tech level is more fully presented with tables on the next two pages showing achievements at specific levels.

Note: Dashes indicate that there is no DM for the given digit; blanks indicate that there is no digit possible in that situation under this generation system.

TECHNOLOGICAL LEVELS

Digit Description

- 0 Stone Age. Primitive
- 1 Bronze Age to Middle Ages
- 2 circa 1400 to 1700
- 3 circa 1700 to 1860
- 4 circa 1860 to 1900
- 5 circa 1900 to 1939
- 6 circa 1940 to 1969
- 7 circa 1970 to 1979
- 8 circa 1980 to 1989
- 9 circa 1990 to 2000
- A Interstellar community
- B Average Imperial
- C Average Imperial
- D Above average Imperial
- E Above average Imperial
- F Technical maximum Imperial
- G Occasional non-Imperial

Tech level labels in terms of historical dating are intended as a guide only. Similarly, the tech level rating indicates what is probably a capability for a world at the stated tech level. Also see the tech level charts on the next two pages.

TRADE CLASSIFICATIONS

Agricultural: Atmosphere 4 - 9, hydrographic 4 - 8, population 5 - 7.

Non-Agricultural: Atmosphere 3-, hydrographic 3-, population 6+.

Industrial: Atmosphere 0, 1, 2, 4, 7, or 9 (vacuum, trace, or tainted), population 9+.

Non-Industrial: Population 6-.

Rich: Atmosphere 6 or 8, population 6 - 8, government 4 - 9.

Poor: Atmosphere 2 - 5, hydrographic 3-.

Water World: Hydrographic A.

Desert World: Hydrographic 0, atmosphere 2+.

Vacuum World: Atmosphere 0.

Asteroid Belt: Size 0.

Ice-capped: Atmosphere 0 or 1, hydrographic 1+.

Subsector Capital: Single most important world in the subsector, especially if the entire sector is under one interstellar government. Assigned by the referee.

Other Notations: There are many other possible notations. The referee may elect to note the presence of prison worlds, exile worlds, preserves or reserves for various purposes, and so on.

TECHNOLOGICAL LEVELS

Tech Level Description	TL	-----Weaponry-----			Computers	Communications
		Personal	Armor	Heavy		
Stone Age	0	club, cudgel spear				runners
Bronze Age	1	dagger, pike sword	jack	catapult	abacus	heliograph
circa 1400 to 1700	2	halberd broadsword	plate armor	cannon		
circa 1700 to 1860	3	foil, cutlass blade, bayonet				telegraph
circa 1860 to 1900	4	revolver shotgun	ironclad	artillery	adding machine	telephones
circa 1900 to 1939	5	carbine, rifle pistol, SMG	steel plate	sandcasters mortars	Model/1	radio communicators
circa 1940 to 1969	6	auto rifle light machinegun	cloth	missiles missile launchers	Model/1 bis	television
circa 1970 to 1979	7	body pistol	mesh flak jacket	pulse laser grenade launcher	Model/2	
circa 1980 to 1989	8	laser carbine snub pistol	vacc suit	auto-cannon	hand calculator Model/2 bis	
circa 1990 to 2000	9	laser rifle	ablat	beam laser	artillery computer Model/3	
interstellar community	10		reflec		battle computer Model/4	holovision
average Imperial	11		combat armor		Model/5	
average Imperial	12				hand computer Model/6	
above average Imperial	13		battle dress		Model/7	holographic crystals
above average Imperial	14					
maximum Imperial	15		black globe			
		-----beyond common levels-----				
	16			disintegrators		
	17				artificial intelligence	
	18	personal disintegrators				
	19					
	20					
	21					

TECHNOLOGICAL LEVELS

	<i>Transportation</i>				<i>Energy Sources</i>	<i>Miscellaneous</i>
	<i>Water</i>	<i>Land</i>	<i>Air</i>	<i>Space</i>		
0	canoes rafts	carts			muscle	
1	galleys	wagons				
2					wind	printing press
3	sailing ships		hot air balloons		water wheel	
4	steamships	trains	dirigibles		coal	anesthetics
5	motorboats	ground cars	airplanes		oil	
6	submersibles	ATV AFV	helicopters		fission	weather prediction
7	-----hovercraft-----			non-starships	solar	
8			air/rafts GCarriers		fusion	weather control
9				drives A - D jump drive		limb regeneration
10	-----grav vehicles-----			drives E - H		
	grav tanks					
11				drives J - K		
12			grav belts	drives L - N		primitive robots
13				drives P - Q		cloning
14				drives R - U		
15				all drives		
	-----beyond common levels-----					
16	-----matter transport-----					
17					anti-matter	self-aware robots
18						
19						
20						
21						

SUBSECTOR MAP GRID		Indicate adjacent subsectors at boundaries of this map grid.
1. Subsector Name		2. Date of Preparation



[illegible]

Animal Encounters

Animals in any ecological system interact with each other, forming food chains, obeying instincts, defending territory, and generally living out their lives. When people enter such an ecological system, they will encounter the animals of the system, prompting natural reactions, such as attack or flight.

Although the precise nature of animals may change, and they may prove quite alien to ordinary experience, most will conform to the broad classifications given below. A referee may choose to establish his own ecological system on a specific world, ignoring the encounter system outlined here. This system, however, is intended to allow broad latitude in both animal types and attack/defense mechanisms, while remaining essentially logical and reasonable.

Animal Types: Nearly all animals may be classified into four basic categories: herbivore, omnivore, carnivore, and scavenger. Specific definitions for these terms are provided in a later section of these rules, and differ from the precise scientific definitions in current use. Within each category, a variety of animal types exist, based on specific feeding/hunting habits; examples of this concept are grazers, chasers, and pouncers. Animal encounters may be further classified into various categories and types, and specific attack and defense mechanisms determined. The resulting description indicates the actions an animal will take without resorting to such confining labels as bear or tiger. While a referee may well elect to use such names, this system also allows the players freedom to encounter truly alien beasts as well.

Animal Encounter Tables: The referee must create a series of unique encounter tables, one set for each world in the universe (only a few of these are necessary before play begins). Each set consists of one encounter column for each relevant terrain type of the world. Generally, a referee will conceal the exact details of these encounter columns, so that persons will only have clues as to the relative abundance or scarcity of specific animals in any specific area. Once these tables are created, they are used each day to determine if animals are encountered, the specific nature of such animals, and how they react to the adventurers. Hunting for sport or food is possible, and danger posed by animals may be great.

CREATING ENCOUNTER TABLES

Initially, the referee must prepare a blank encounter column for each terrain type on the world. The terrain DMs chart indicates the general types of terrain which might be expected on the worlds to be visited. The referee should determine if the encounter table will use one die or two; two dice tables are more complex, and should be selected for terrain or worlds that will be frequently used, while one die tables are for worlds or terrain types which the referee does not feel merit detailed representation. The examples of blank encounter tables shown indicate the predetermined sequences of animal categories which should be used in most cases; these sequences may be varied by the referee to fit specific situations or world conditions.

Once the encounter table format has been decided upon, the referee notes the terrain type for the table, and consults the terrain types table. Any applicable DMs are recorded. The referee refers to the animal types table and rolls two dice for the animal category involved. The result is the animal type for the entry. The animal attributes table is consulted to determine if the animal has any special attributes, such as flying or swimming. The animal sizes and weaponry table is consulted to determine the animal's size, wound potential, weaponry, and armor. Finally, the characteristics table is consulted to note the animal's predisposition to attack or flee, and its speed.

When the encounter table calls for events, the referee should insert an event from those described in these rules, or generate additional events appropriate to the situation.

Animal Types: The animal types table indicates the types of animals which occur within the animal categories on the encounter column.

Special Attributes: Animals which adventurers will encounter will tend to be walkers, but may be flyers, swimmers, amphibians, or even triphibians. Throw two dice and consult the special attributes table. DMs are imposed for various world sizes and atmospheres. Insure that the correct terrain column is used on the table. Four special attribute types are possible on the table:

Flyers: Animals capable of flying through the use of wings, levitating gas sacs, or other mechanisms.

Swimmers: Animals living in liquid and swimming through the use of fins, flippers, jets, or other mechanisms.

Amphibians: Animals living in liquid, but capable of emerging onto land.

Triphibians: Animals living in liquid, but capable of walking on land and flying in the air.

Certain entries on the table are followed by a parenthetical DM which must be applied to the animal size throw; its general effect is to make flyers smaller and swimmers larger. Note the special attribute (if any) on the blank encounter column being filled in. Record any size DM temporarily for use in the size throw to come.

Animal Size: Animals range in size from small (massing about 1 kilogram) to giant (massing 6 tons or greater), and exhibit a variety of characteristics related to size. Throw two dice and consult the weight, hits, and wounds columns of the animal size and weaponry table (rolling only once for all three). DMs are imposed on this throw based on planetary size, the terrain DM chart (by specific terrain type) and as required by special attributes, if present.

Animal size is expressed on the table in kilograms, and may be taken as a general indication of size in relation to human beings (humans are assumed to be approximately

100 kilograms). All sizes may be construed to cover a range of plus or minus 20%.

Animal Hits: The hits column indicates the number of hits an animal can take, expressed as a dice throw. When an animal has received wounds equalling or exceeding the first dice throw, the animal is considered to be unconscious. When it has received wounds equalling or exceeding its total hits, it is dead. If an animal receives wounds equal to twice its hits, it is destroyed and has lost any food or pelt value. For example, an animal listed on the animal size and weaponry table as taking 2D/2D hits would have two dice rolled twice: the first result would be the number of hits required to render the animal unconscious. The second two-dice throw would indicate the additional hits required to kill the animal. If more than twice this combined value is achieved, the animal is completely destroyed.

Animal Wounds: The wounds column indicates the general effect of size on an animal's ability to cause damage when it hits. The formula is noted and applied to the effects of the animal's weapons when they are determined. If, for example, the animal has teeth as its weapons, then the weapons range matrix (in personal combat) states that teeth inflict 1D hits when they hit. A wound alteration of -2D indicates that the referee should roll 2D and subtract that from 1D to determine the actual number of hits inflicted. If the wound alteration is +4D, then the teeth will inflict 1D + 4D hits. If the wound alteration is x4, then the teeth will inflict 1Dx4 hits. The result is that of two animals armed with the same weapon, the larger will inflict a heavier wound. For simplicity, the damage dice should be rolled once when the animal is generated; the animal would inflict that number of hits every time it hits. A roll of 0 or less equals 1; an animal always has the ability to do some damage. If the referee wishes to take the trouble, he can roll the proper number of dice every time the animal hits; in this case, a roll of 0 or less would equal 0.

Animal Weaponry: Animals are naturally equipped with weapons which enable them to attack and defend. Familiar terms such as teeth and claws indicate the effects in the combat system, but should also be considered to approximate other equivalent systems if necessary. Entries such as teeth+1 indicate a DM to the combat roll of the weapon, making it more effective. In some cases, unusual weaponry is indicated by the statement as [weapon type], for example as pike. The combat effect may be read from the weapons matrix (and wounding from the range matrix) in the chapter on personal combat. Weapon types should always be considered to be descriptive of result rather than of strict process.

Throw two dice and consult the animal weapons column. Implement DMs as indicated on the table.

Animal Armor: Some animals possess armor protecting them from attacks by other animals. Armor is intended to indicate the general effectiveness of the armor, not its specific construction. Entries such as battle+4 indicate DMs to the combat die roll, making the armor less effective.

Throw two dice and consult the animal armor column. Implement the DMs as indicated on the table.

Animal Characteristics: Because animals have predispositions to attack or to flee, these details must be noted

on the animal encounter table for each specific type presented. These characteristics are noted in the form of three codes in the table: A, F, and S. Each is followed by a number which indicates the throw involved.

A indicates attack predisposition. A7 would indicate that the animal will attack on a throw of 7+. The number 0 indicates a special case, and the animal will attack if it meets certain criteria for its type.

F indicates predisposition to flee. F7 would indicate that the animal will flee on a throw of 7+. The number 0 is a special case, and the animal will flee if certain criteria for the animal type are met.

S indicates speed. S0 indicates that the animal is immobile. S1 indicates normal or ordinary speed; S2 indicates double speed; S3 indicates triple speed; S4 indicates quadruple speed.

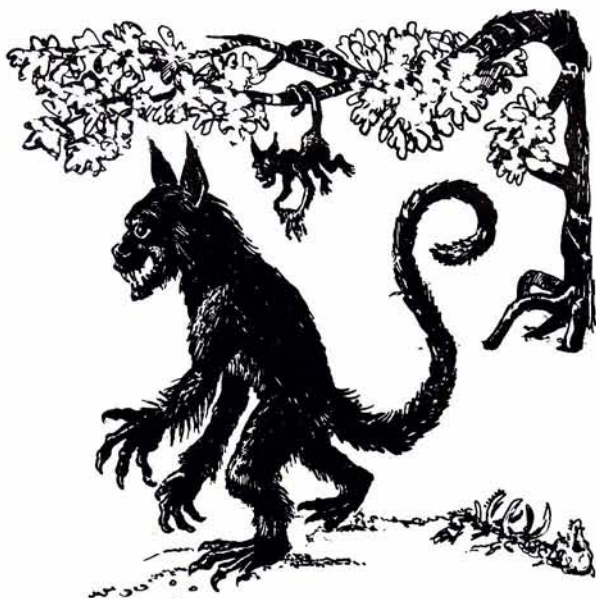
The animal characteristics table indicates die rolls to derive these three characteristics.

Referee's Additions: The referee may invent new animal characteristics within this system. Larger or smaller animals may be invented, extrapolating from the system presented. Other animal weaponry and armor types may be invented; the easiest to implement are those already found on the weapons matrix, with or without DMs, such as cloth-1 (cloth minus 1), ablat+1, foil, stinger-1, and so on.

Animals may also be provided with more complex motivations than the simple dice rolls for attack and flight. The animal type descriptions later in this chapter will prove helpful in this regard. Carnivores will base their decisions on the sizes of the party and of individuals. Large herbivores will be less likely to flee than small ones, tending to ignore a party unless it approaches too close. Humans may resemble a carnivore's natural prey or a herbivore's natural predator. Any animal may attack if the party threatens its young, nest, territory, or meal. Any animal may flee if startled or if the party appears sufficiently threatening; even the most vicious carnivore is reluctant to risk its life for a meal.

Other responses are possible beyond attack or flight. A carnivore may stalk a party, hoping to attack an isolated





member. An armored animal may curl up into a ball or retract its extremities into its shell. Animals may find certain parts of the group's equipment attractive, and fasten themselves to the outside of an ATV or try to eat clothing. There may be responses analogous to that of the skunk or the opossum. An animal may be friendly or want to play; it might even mistake a party for members of the opposite sex.

Common Sense: Airless worlds will almost never have any life of consequence on them; if they do, animal life will still tend to follow the same broad guidelines given above. Still, flyers and liquid breathers will be almost non-existent.

The referee should always be prepared to alter or restrain prescribed procedures if it is felt that they contravene logic or reason.

USING THE ENCOUNTER TABLES

Each day, an adventuring band may possibly have one or more encounters with some animal life forms. As a general rule, the referee will check for an encounter once while the band is travelling and once while the band is halted (for rest, exercise, encampment, or whatever). There is a one-third chance (throw 5 or 6 on one die) that an animal encounter will occur in any of the specified terrain types. Referee-initiated modifications to this frequency may be instituted to cover greater or smaller probabilities based on planetary or local conditions.

In addition, specific encounters at specific locations are always possible. For example, the referee may already have populated a location (perhaps a ruin) with specific animals. These are not subject to normal random encounter rules.

Procedure: Twice each day, the referee will throw to determine if an encounter occurs. If a band splits temporarily, each portion of the band should be liable for an independent encounter. When an encounter does occur, the correct (based on terrain type) encounter column is then used to ascertain the class, type, quantity, and characteristics of the animal encountered (in some circumstances the encounter column may indicate that a non-animal event has been encountered instead). Any situation which

calls for combat uses the personal combat system already presented.

Special Effects: Animal encounters constitute the only general possibility of access that characters have to food, furs, or other valuable items. Guides may be hired or present for the purpose of assisting in the location of specific animals, contributing a DM of +2 or greater to influence encounter throws for a specific type of animal. Animals are usually edible (throw 5+ to be edible, DM -3 if the atmosphere is tainted) provided the planetary atmosphere is between 2 and 9, and the animal does not have a poison weapon. Otherwise, the animal is inedible. From 5% to 30% (throw one die times 5%) of an animal's weight will be edible meat. A person requires one kilogram of meat per day when living off the hunt.

Animal Descriptions: The referee may elect to describe animals in order to allow a better image in the adventurers' minds. The basic system may be used without this aspect, but descriptions such as lion-like, amoeboid, canine, or others may prove useful.

ANIMAL DEFINITIONS

The following definitions more fully detail the meanings of the descriptive terms used for animal categories, types, and events.

Herbivores: Animals which eat unresisting food are generally classed as herbivores. While this is usually construed as covering plant eaters, the definition is extended here to cover the eating of unresisting animals as well. For example, the anteater and the whale eat effectively unresisting animals (ants and krill) and should be classified as herbivores. Herbivores are of three types:

Grazers: Animals which devote most of their time to eating are termed grazers. They may be solitary or grouped in herds. Their primary defense is flight, although such action may result in stampedes which could endanger adventurers in their path. When forced to fight, they will fight fiercely until killed or routed. Typical Terran grazers are the antelope and the moose. The whale (which scoops krill from the sea as it swims through it) is also a grazer.

Intermittents: Herbivores which do not devote full time to eating are termed intermittents. They tend to be solitary. Intermittents usually freeze when an encounter occurs, fleeing if attacked by a larger animal. There is some potential that an intermittent will attack to protect territory or young. Typical Terran intermittents are the chipmunk and the elephant.

Filters: Herbivores which pass the environment through their bodies are termed filters. Unlike grazers, which move to food, filters move a flow of water or air through themselves in order to gain food. Generally, filters suck, trip, push, or pull anything (even animals) at close range into a digestive sac, inflicting automatic wounds of 1D per 50 kg or less of animal mass (wound alteration should be ignored for filters). Filters are solitary and generally slow-moving. They will attack reflexively (as indicated above), succeeding against adventurers with a throw of 6+. Prompt struggle by adventurers (at a cost of one endurance point each) will secure an escape on a throw of 7+, DM of +2 for each companion assisting at close range. Throw once per combat

round, beginning on the round following the attack. A filter can absorb an animal up to twice its own weight. Terran filters are generally aquatic, such as the barnacle.

Omnivores: Animals which eat food without regard to its resistance are termed omnivores. The bear, which will eat fruits and berries as readily as it will hunt for animals, is an omnivore. Omnivores are of three types: gatherers, hunters, and eaters.

Gatherers: Animals which display a greater tendency toward herbivorous behavior are termed gatherers. In most respects, they are similar to intermittents. Typical Terran gatherers are the raccoon and the chimpanzee.

Hunters: Animals which display a greater tendency toward carnivorous behavior are termed hunters. In most respects, they are similar to small or inefficient chasers. Typical Terran hunters are bears or humans.

Eaters: The true omnivore (in the sense that it will eat anything and everything) does not distinguish its food, consuming all that it confronts. Eaters present considerable danger in that they will not avoid adventurers when encountered. A typical Terran eater is the army ant (when an entire swarm is considered to be one organism).

Carnivores: Animals which prey on other animals by attacking and killing them in the face of resistance are classed as carnivores. Carnivores are of five basic types: pouncers, chasers, trappers, sirens, and killers.

Pouncers: Animals which kill their prey by attacking from hiding, or by stalking and springing, are termed pouncers. Because of the difficulty of coordinating such attacks, pouncers are usually solitary animals. In an encounter, pouncers which have achieved surprise have succeeded in their basic aim and will attack regardless of range. If they do not have surprise, they will sometimes still attack. They will flee if they themselves are surprised. Typical Terran pouncers are cats.

Chasers: Animals which kill their prey by attacking after a chase are termed chasers. They tend to be pack animals. Typical chasers are wolves.

Trappers: Animals which passively allow their prey to enter a created trap wherein they are killed and then eaten are termed trappers. Trappers tend to be solitary and slow, but will attack any animal which enters their trap. Generally, any character who is surprised by a trapper at close or short range is then trapped on a throw of 5+. Struggling to escape (in lieu of making any swings or blows, but costing one endurance point) succeeds on a throw of 9+, DM of +1 for each assisting companion. Companions are subject to capture by the trap while providing assistance. Usually, a trap will not wound or damage a character, but will tend to hold the adventurer to allow the trapper to attempt to kill him. A typical Terran trapper is the spider; less typical is the ant lion.

Siren: Distinct from the trapper, which creates a trap for its prey, a siren also creates a lure to draw prey to the trap. The trap is treated in much the same manner as that of the trapper, but the lure entails additional consideration. In most cases, the lure will be specific to some animal, but will be unnoticed by humans. In rare cases (throw 11+), the lure will be universal, perhaps a smell or scent, or a mirage or beautiful configuration, which will attract characters into a

vulnerable position. Very rarely, the lure will be psionic in nature. Typical Terran sirens are the angler fish (its mouth is the trap) and the venus fly trap.

Killers: Certain carnivores devote much attention to killing, apparently for the act itself, in a kind of blood lust. Killers' reason (such as territorial defense) is replaced by a raw killing instinct. Attacks by killers are fierce and violent. Killers will generally disregard the defender's size as a factor. The typical Terran killer is the shark.

Scavengers: Animals which share or steal the prey of others, or that take the remains of kills, are classed as scavengers. Scavengers are of four types: intimidators, hijackers, carrion-eaters, and reducers.

Intimidators: Scavengers which establish their claim to food by frightening or threatening other animals are termed intimidators. Their standard procedure is to approach a kill and force other animals away by appearing to be a threat. A typical Terran intimidator is the coyote.

Hijackers: Scavengers which establish their claim to food by simply taking it are termed hijackers. They rely on their superior strength or size to allow them to hijack food because the other animals present cannot effectively object. A typical Terran hijacker is the lion or the Tyrannosaurus rex.

Carrion-Eaters: Scavengers which take dead meat when it becomes available (often waiting patiently for all other threats to disperse before beginning) are termed carrion-eaters. Most typical of Terran carrion-eaters is the buzzard.

Reducers: Scavengers which act constantly on all available food are termed reducers. They eat the remains of food after all other scavengers are finished with it, consuming bone and other leavings. Terran reducers are all microscopic, such as bacteria.



TERRAIN TYPES

Terrain Type	Terrain Equivalent	Type DM	Size DM
Clear	Road, Open	+3	—
Prairie	Plain, Steppe	+4	—
Rough	Hills, Foothills	—	—
Broken	Badlands	-3	-3
Mountain	Alpine	—	—
Forest	Woods	-4	-4
Jungle	Rainforest	-3	-2
River	Stream, Creek	+1	+1
Swamp	Bog	-2	+4
Marsh	Wetland	—	-1
Desert	Dunes	+3	-3
Beach	Shore, Sea Edge	+3	+2
Surface	Ocean, Sea	+2	+3
Shallows	Ocean, Sea	+2	+2
Depths	Ocean, Sea	+2	+4
Bottom	Ocean, Sea	-4	—
Sea Cave	Sea Cavern	-2	—
Sargasso	Seaweed	-4	-2
Ruins	Old City	-3	—
Cave	Cavern	-4	+1
Chasm	Crevasse, Abyss	-1	-3
Crater	Hollow	—	-1

ENCOUNTER COLUMNS

Die	Category	Die	Category
2 S	Scavenger	1 S	Scavenger
3 O	Omnivore	2 H	Herbivore
4 S	Scavenger	3 H	Herbivore
5 O	Omnivore	4 H	Herbivore
6 H	Herbivore	5 O	Omnivore
7 H	Herbivore	6 C	Carnivore
8 H	Herbivore		
9 C	Carnivore		
10 E	Event		
11 C	Carnivore		
12 C	Carnivore		

These two encounter column formats are suggestions; other such columns with different arrangements may also be used if desired. Construct one table for each terrain type of each world.

Animal Sizes and Weaponry

Roll once for size/hits/wounds and once each for weapons and armor. If the result is (+6), roll again with DM of +6. If +6 is rolled again, just reroll.

Animal Size DMs: From special attributes and terrain types tables. If planetary size 8+, DM -1; if planetary size 4-, DM +1.

Animal Weaponry DMs: Carnivore, +8; Omnivore, +4; Herbivore, -3.

Animal Armor DMs: Carnivore, -1; Scavenger, +1; Herbivore, +2. Flyers and triphibians never have armor.

ANIMAL TYPES

Die	Herbivore	Omnivore	Carnivore	Scavenger
0	Filter (1D)	Gatherer	Siren	Carrion-eater (1D)
1	Filter	Gatherer	Pouncer	Carrion-eater (2D)
2	Filter	Eater	Siren	Reducer (1D)
3	Intermittent	Gatherer	Pouncer	Hijacker (1D)
4	Intermittent	Eater (2D)	Killer (1D)	Carrion-eater (2D)
5	Intermittent (1D)	Gatherer	Trapper	Intimidator (1D)
6	Intermittent	Hunter	Pouncer	Reducer
7	Grazer	Hunter (1D)	Chaser	Carrion-eater (1D)
8	Grazer (1D)	Hunter	Chaser (3D)	Reducer (3D)
9	Grazer (2D)	Gatherer	Chaser	Hijacker
10	Grazer (3D)	Eater (1D)	Killer	Intimidator (2D)
11	Grazer (2D)	Hunter (1D)	Chaser (2D)	Reducer (1D)
12	Grazer (4D)	Gatherer	Siren	Hijacker
13	Grazer (5D)	Gatherer	Chaser (1D)	Intimidator (1D)

Throw two dice on this table (as modified by the type DMs in the terrain types table) to determine the animal type for a specific encounter column entry.

ANIMAL ATTRIBUTES

Die	Beach	Marsh	River	Sea	Swamp	Other
2	S +1	S -6	S +1	S +2	S -3	—
3	A +2	A +2	A +1	S +2	A +1	—
4	A +2	A +1	—	S +2	A +1	—
5	—	—	—	A +2	—	—
6	—	—	—	A	—	—
7	—	—	—	S +1	—	—
8	—	—	—	S -1	—	—
9	—	—	—	T -7	—	—
10	—	—	—	T -6	—	F -6
11	F -6	F -6	F -6	F -6	F -6	F -5
12	F -5	F -5	F -5	F -5	F -5	F -3

Roll 2D to determine special attributes and size DM for the specific animal type. DMs: planetary size 9+, -1; 5 or 4, +1; 3-, +2; atmosphere 8+, +2; 5-, -1. The abbreviation shows attribute, if any. Number is a size DM used in addition to the DM from the terrain types table (for flyers the DM from this table is the only one used). A= Amphibian, F= Flyer, S= Swimmer, T= Triphibian.

ANIMAL SIZES AND WEAPONRY

Die	Weight	Hits	Wounds	Weapons	Armor
1	1	1D/0	-2D	hooves and horns	(+6)
2	3	1D/1D	-2D	horns	—
3	6	1D/2D	-1D	hooves and teeth	—
4	12	2D/2D	—	hooves	jack
5	25	3D/2D	—	horns and teeth	—
6	50	4D/2D	—	thrasher	—
7	100	5D/2D	—	claws and teeth	—
8	200	5D/3D	+1D	teeth	—
9	400	6D/3D	+2D	claws	—
10	800	7D/3D	+3D	claws	jack
11	1600	8D/3D	+4D	thrasher	—
12	3200	8D/4D	+5D	claws and teeth	(+6)
13	(+6)	(+6)	(+6)	claws+1	mesh+1
14	6000	9D/4D	x2	stinger	cloth+1
15	12000	10D/5D	x2	claws+1 and teeth+1	mesh
16	24000	12D/6D	x3	teeth+1	cloth
17	30000	14D/7D	x4	as blade	combat+4
18	36000	15D/7D	x4	as pike	reflec
19	40000	16D/8D	x5	as broadsword	ablat
20	44000	17D/9D	x6	as body pistol	battle

Animal Characteristics

This table indicates the behavior which may be expected by any specific animal. Determine animal category and type. Roll once in each column (to attack, to flee, and typical speed); the result is the throw (on two dice) that that specific animal type must make to attack or flee (otherwise the animal does nothing). The number for speed is the multiplier times ordinary speed.

For example, for a grazer, roll to determine attack; one die is rolled, with a result of 6 (+2=8), so the animal will attack on a roll of 8+ when encountered. To determine the throw to flee, one die is rolled, for a 3 (-1=2), so the animal will flee on a roll of 2+. The speed die roll is a 4 (-2=2), so the animal has double ordinary speed.

Note that the rolls to determine these numbers use one die, but in all cases, they then represent two-dice rolls when used on the animal encounter tables.

Formatting: Each roll is generally a single digit, and should be followed by the letter A (for attack), F (for flee), or S (for speed). For example, A6 F7 S2 indicates an animal that will attack on 6+, flee on 7+ if it has not already attacked, and will have a speed of double ordinary.

In some cases (where phrases are given above) animals will behave according to the situation. The number used should be 0 to indicate a special case.

If possible indicates that a filter will attack if it possibly can.

If surprise indicates that the animal will attack if it has surprise.

If surprised indicates that the animal will flee if surprised.

If more indicates that the animal will attack if there are more of it than there are potential prey.

Herbivores: Most animals will attack before they flee, so the order of codes should be A F S; herbivores will probably flee first, so they should be coded F A S.

ANIMAL CHARACTERISTICS

Category Type	To Attack	To Flee	Typical Speed
Herbivore			
Filter	If possible	1D+2 (3-8)	1D-5 (0-1; minimum 0)
Intermittent	1D+3 (4-9)	1D+3 (4-9)	1D-4 (1-2; minimum 1)
Grazer	1D+2 (3-8)	1D-1 (0-5)	1D-2 (2-4; minimum 2)
Omnivore			
Gatherer	1D+3 (4-9)	1D+2 (3-8)	1D-3 (1-3; minimum 1)
Hunter	1D+0 (1-6)	1D+2 (3-8)	1D-4 (1-2; minimum 1)
Eater	1D+0 (1-6)	1D+3 (4-9)	1D-3 (1-3; minimum 1)
Carnivore			
Pouncer	If surprise	If surprised	1D-4 (1-2; minimum 1)
Chaser	If more	1D+3 (4-9)	1D-2 (2-4; minimum 2)
Trapper	If surprise	1D+2 (3-8)	1D-5 (0-1; minimum 0)
Siren	If surprise	1D+3 (4-9)	1D-4 (0-2; minimum 0)
Killer	1D+0 (1-6)	1D+3 (4-9)	1D-3 (1-3; minimum 1)
Scavenger			
Hijacker	1D+1 (2-7)	1D+2 (3-8)	1D-4 (1-2; minimum 1)
Intimidator	1D+2 (3-8)	1D+1 (2-7)	1D-4 (1-2; minimum 1)
Carriion-Eater	1D+3 (4-9)	1D+2 (3-8)	1D-3 (1-3; minimum 1)
Reducer	1D+3 (4-9)	1D+2 (3-8)	1D-4 (1-2; minimum 1)

TYPICAL ANIMAL ENCOUNTER TABLE

The table below is a typical table, showing the format for presentation of the information and for easy use of the encounters. The table is clearly headed with the type of terrain, and with the world on which the terrain occurs. Headings for the individual columns make use of the material easier.

CLEAR Terrain

Regina (A788899-A)

Die	Animal	Weight	Hits	Armor	Wounds & Weapons
2	1 Hijacker	200kg	18/11	jack	11 teeth A5 F7 S2
3	2 Hunters	12kg	3/ 7	none	4 claws A5 F4 S1
4	1 Reducer	12kg	7/ 8	none	6 horns A8 F4 S2
5	1 Flying Gatherer	3kg	1/ 3	none	1 claws A4 F4 S1
6	8 Grazers	400kg	25/15	none	14 hooves F1 A7 S4
7	7 Flying Grazers	6kg	5/ 7	none	1 teeth F4 A8 S2
8	1 Grazer	1600kg	33/11	cmbt+4	21 thrasher F5 A5 S2
9	1 Chaser	50kg	11/ 9	none	6 claws+1 A0 F7 S2
10	Event— Howling Carnivores. Out of sight, animals (die roll 11 below) are heard howling continuously. If the party spends the night nearby, they may attack (roll 7+).				
11	6 Chasers	25kg	6/11	jack	9 teeth+1 A0 F5 S2
12	1 Killer	200kg	21/12	none	17 as pike A1 F9 S1

ENCOUNTER TABLE GENERATION CHECKLIST

Use this checklist to create unique encounter tables for individual terrain situations on different worlds.

1. Determine UPP and terrain types appearing on world in question.
2. For each terrain type, generate an encounter table.
 - A. Determine type DM and size DM for terrain from terrain type table.
 - B. Select encounter column format or generate a different one.
 - C. Determine animal type and quantity using animal type table.
 - D. Determine special attributes (if any) for each animal type.
 - E. Determine specific details of animal.
 - 1) Note weight and hits.
 - 2) Note weapon used and wounding as altered by wound alteration.
 - 3) Note animal armor.
 - 4) Determine animal characteristics.
3. Apply common sense as required.



EVENTS

In addition to animals, the referee may include one or more events in his encounter tables. An event may be almost anything: an unusual animal not covered adequately by the standard format, an interesting terrain feature, weather, even a natural disaster. An event's purpose is to add interest, atmosphere, and perhaps a bit of danger to the adventurers' travels. Events should be specifically tailored to the terrain in which they occur, and should take into account the nature of the party, its weapons, and its vehicles. A number of sample events are given below. In order to present as many ideas as possible, the descriptions of individual events are short; a referee's complete description of an event may require more information.

Animals

An event is a convenient form to use in describing an unusual animal; the animal's statistics, in standard format, may follow the description, or the event may describe unusual behavior by an animal found elsewhere on the table. An event may also describe the animal's lair or spoor, rather than the animal itself.

Chameleon: These animals are very well camouflaged. If the animal chooses to attack, the encounter will take place at close range and the animal will have surprise; otherwise, there will be no encounter.

Psionic Assaulters: Telepathic carnivores attack the party. All persons are attacked by psionic assault as explained in the psionics rules. During the attack, the creatures will remain hidden within 50 meters of the party, emerging only if most of the party is incapacitated.

Circling Flyers: A number of flyers spot the party and circle above their heads. After about 10 minutes the party will be attacked by chasers. The animals are symbiotic: the flyers spot prey for the chasers, and are allowed to share in the feast.

Poisonous Pests: While the party was stopped, tiny (1 gram) creatures have crawled into concealed places within the party's equipment (packs, boots, etc.). They are poisonous, and attack when encountered (when a character

reaches into his pack, puts on his boots, etc.), doing 3D damage unless the character makes a saving throw of dexterity or less.

Stampede: A herd of grazers, frightened by carnivores, stampedes into the party. They can be turned by loud noises (gunshots, explosions) or laser bolts. Otherwise, they will run straight through the party. Each individual must roll 8+ to avoid 2D accidental damage.

Rutting Season: A large, normally harmless herbivore mistakes the party's ATV for a rival and charges. Throw 10+ each combat round, DM + driver's skill, to avoid a collision. The ATV will be damaged and rendered immobile until repaired on 9+ per collision.

Lair: The party comes upon a large burrow, in which there are five immature pouncers. They are not dangerous, but if the party remains in the area more than a few minutes, the mother will return and attack immediately.

Plants

Although plants will generally remain just part of the scenery, some may be interesting or dangerous enough to qualify as events.

Hallucinogenic Pollen: The party comes upon a field of flowers. The air is filled with their pollen, which will cause strong hallucinations if breathed. The hallucinations, threatening in nature, will continue for about 20 minutes after the party leaves the field.

Carnivorous Plants: Apparently solid ground collapses beneath the lead member of the party and he falls into a circular pit 4 meters deep; the walls are covered with downward-projecting spikes and there is 1 meter of liquid at the bottom. This is a digestive organ grown by nearby trees, and if the character is not rescued within a few minutes, the liquid will begin to digest him.

Wirebushes: The party comes to an area filled with low bushes. Their branches are very tough, and if the party tries to drive through, their ATV's tracks will be entangled, requiring 2D man-hours to free. Bypassing the area will add half an hour to travel time.

Weather

Various types of weather may endanger a party or impede its progress.

Dense Fog: The party encounters a low area filled with a dense fog. Visibility is reduced to medium range, and safe travel is reduced to half speed.

Sandstorm: High winds fill the air with abrasive sand particles. Progress will be impossible for 12 hours. Individuals will be buried, and vehicle windscreens will be abraded into translucence.

Cold Snap: The ambient temperature falls rapidly. Individuals must obtain shelter or lose 2 points of endurance per hour.

Tornado: A tornado is heading toward the party. If it achieves surprise, or the party does not act to avoid its path once it is sighted, it will destroy their vehicle and inflict 3D hits on each member of the group.

Rainstorm: A sudden rainstorm reduces visibility and turns the ground to thick mud. Travel is slowed to quarter speed for the day.

Natural Disasters

These make good events if used sparingly. The more violent events will serve to warn travellers away from certain terrain types, and enough warning should be given to allow a clever party to escape.

Prairie Fire: A line of fire can be seen on the horizon. The fire is 20 km across and must be detoured around. Animals fleeing the fire will ignore the party unless their escape path is blocked. Detour will take 4 hours; roll for 3 encounters during that time.

Flash Flood: A wall of water rushes along the river bed, sweeping all before it. The party must get to high ground before the flood reaches them. Vehicles roll 10+ to avoid destruction; individuals roll 9+ to avoid being carried several km downstream, suffering 3D points of damage.

Volcano: A nearby volcano erupts, and the party must flee or be overcome by poisonous gases. After the eruption, ash and lava flow have sealed the mountain pass, preventing forward progress.

Seismic Quake: A seismic disturbance shakes the ground. Each adventurer must throw strength or less to avoid being thrown to the ground, taking 1D points damage.

Terrain Features

Adventurers may encounter variations in the local terrain, too small to show up on planetary maps.

Broken Ground: The terrain becomes very rough; the ATV must slow to quarter speed or risk a track breakdown (throw 6+ per hour to avoid).

Oasis: The party approaches an oasis, with a pool of water surrounded by heavy vegetation. Throw 8+ for the water to be drinkable. If it is not, moisture may still be recovered from reservoirs inside one species of plants.

Crevasse: A deep crevasse blocks forward progress, and 2D hours will be required to detour around it.

Radiation Area: An area in the forest is devoid of life, and a geiger counter will show very high levels of radiation near the center. Individuals who spend more than 10 minutes in the area will suffer from radiation sickness, taking 1 point of damage, every day for the next two weeks, for each 10 minutes spent in the area; for instance, a character who spends an hour in the area will take 6 points of damage each day for two weeks.

Quicksand: Throw dexterity or less to avoid becoming trapped. If trapped, throw strength or less each round to escape. If a companion is able to help (by extending a rope, branch, etc.), DM +3. If the adventurer does not escape within 10 rounds, he drowns.

Ford: Sandbars in the river create a shallow area, allowing vehicles to cross.

Curiosities

Some events may have no importance whatsoever, merely providing atmosphere to an adventure.

Statues: The party finds a large stone statue, half buried; the torso is human but the head is that of a local carnivore. Natives of the area, if consulted, will state that such finds are common and will give varying opinions of their origin.

Jungle Drums: Distant drums are heard at night; periodically they fall silent and are answered from another direc-

tion. If the party investigates, they may be able to discover that these are the mating calls of a large omnivore.

Marsh Gas: Moving lights are seen in the distance, apparently following the party. They may temporarily be mistaken for the running lights of an air/raft.

Vacuum Worlds

Encounter tables for vacuum worlds (or any world without life) must be largely composed of events.

Dust Pool: Micro-fine dust fills a crater. If any character walks though the pool, throw 10+ for a vacc suit malfunction to occur from dust contamination. If dust enters the party's vehicle (carried in on a character's vacc suit) throw 10+ every hour for malfunction of some element of the vehicle's electronic circuitry.

Solar Storm: Increased solar activity makes radio communication impossible for several days.

Magnetic Anomaly: A large underground metal deposit deflects compass readings by up to 60 degrees. Travellers who do not notice this will be steered off course.

Tracks: ATV tracks cross the party's path. If the party follows them in the right direction, they will be led eventually to civilization.

Pressure Tent: The party comes upon a small inflatable shelter of the type used by prospectors. There is breathable air inside, but no light or heat, as the shelter's power pack has run down. The owner's body may be found (if anyone undertakes a lengthy search) under a rockslide several hundred meters away.

Greater Complexities: Events may be used to trigger rolls on special encounter tables; for example, if an event describes a forest clearing, a special table may be made up to handle encounters in that clearing. An event may be made specifically applicable to an adventure in which a party is involved; for example, if a party is prospecting the location of a mineral outcropping could be an event. Events may trigger small adventures, separate from the main adventure; for example, an event could consist of the exploration of a cave previously mapped by the referee.



Encounters

Encounters are the prime focus in **Traveller**. Through them, player characters meet and interact with non-player characters (NPCs), events, animals, and other interesting phenomena. The direction and the tone of adventures is inevitably influenced by the types of individuals encountered in the course of the adventurer's travels. Encounters are of seven basic types: routine, random, rumor, legal, patron, adventure, and animal. The referee determines what type of encounter is probable, and determines or decides if it occurs. If there is an encounter, the appropriate details are generated, and the encounter is presented to the players. During the course of an encounter, the referee builds the situation, presents any appropriate reactions, and administers any activity that may be called for. In any encounter, the events may lead to friendship, a business relationship, antipathy and violence, or indifference.

Encounters with non-player characters serve as the referee's vehicle for direction and input during adventures. The proper presentation of non-player characters can provide players with transportation, information, or other assistance if reactions are appropriate. Non-player characters can also use violence (or the threat of violence) to redirect activity toward more reasonable goals.

Encounter Tables: A wide variety of encounter tables are useful to the referee as a prod to the imagination and an aid to the efficient management of an adventure. Encounter tables are presented in the set of encounter charts and tables. Other tables oriented toward a specific **Traveller** adventure or campaign may be generated by the referee.

Because of their nature, animal encounters are handled in a separate chapter.

ROUTINE ENCOUNTERS

Adventurers meet ordinary people in the course of ordinary activity. In many cases, adventurers actually ignore the persons (and are themselves little noticed), concentrating on their current activity instead. Personal reactions are rarely of importance, and the encountered individual merely performs his or her duties. For example, an encounter with a store clerk in the course of buying equipment is rarely of importance, and the process usually continues without trouble.

Routine encounters occur as called for by the situation and at the discretion of the referee.

Clerks: The most common form of routine encounter is the clerk. When an adventurer enters a store to buy equipment, a shop to procure repairs, or a restaurant to buy a meal, the clerk is a routine encounter. There should be no problem in achieving the stated goal, and the clerk or waiter will perform the job adequately, if not perfectly. It is not necessary for the adventurer to know the UPP of the clerk, or even deal with the clerk at any great length.

At times, the otherwise routine encounter may be used by the referee to further the events of the adventure. In such cases, the encounter is no longer routine; it is instead a random encounter, or an adventure encounter.

Employees and Hirelings: One form of routine encounter is the employment interview where the adventurers are the potential employers. When travellers themselves need employees (for any purpose, from bodyguards to crewmembers), they must find them in the course of their activities. Advertising, visiting local union hiring halls, or actively spreading the word at local establishments are all possibilities for the location of potential hirelings. The referee, in response to this activity, must then generate several non-player characters and present them as applicants for employment. The interview consists of the presentation of the character's UPP and skill levels. The player characters

then decide whether to hire or not based on the information presented. Of course, applicants will be limited (perhaps 1D; one to six applicants per week), and the adventurers cannot be too choosy.

RANDOM ENCOUNTERS

Adventurers, as they travel about on planets, also have random encounters with an unpredictable variety of individuals or groups. Such individuals are themselves performing various tasks, which may complement, supplement, oppose, or be irrelevant to the goals of the adventurers themselves. Some random encounters are mandated by the referee in order to add adventure or spice to a situation.

Random encounters are primarily dictated by the random encounter matrix. Random encounters may occur as frequently as daily; each day the referee should throw to determine if a random encounter has occurred (throw 5+ on 1D for a random encounter). Random encounters may occur only if there is a local population to provide the individuals who will form the encounter.

If a random encounter is called for, throw two dice and consult the random encounter matrix. The result indicates the specific encounter on the random encounter list. The list provided is only an example, and other lists may be generated for specific adventures or situations. For example, if the adventuring group is on a world embroiled in a civil war, the random encounter list might be full of troops, refugees, guerrillas, war profiteers, petty warlords, and members of various factions. The remarks column of the random encounter list indicates details of the group which is encountered. Unless contradicted by the remarks, the group can be assumed to be unarmored, armed only with blade weapons, on foot, and at the tech level of the current world. If the remarks direct, the referee should equip the group with weapons, armor, and vehicles appropriate to the local tech level. Some groups may have leaders; a leader is

assumed to be armed with a gun and to be armored consistent with local tech level. In all cases, only military troops and leaders will wear combat armor or battle dress.

Reactions are an important part of random encounters. Once the encounter occurs, the referee should consult the reaction table to determine the specific response to the encounter by the other side.

RUMORS

Information is a valuable commodity to travellers, and rumors are the source of much useful information. The term rumor is a catchword covering a wide variety of presentations of information. Rumors may be newspaper or broadcast information; they may be conversations overheard on public transport, or in local eating establishments; they may be bits and pieces brought together by the listener. In any case, the idea of the rumor allows the player characters to learn of new, exciting, and potentially rewarding (or potentially deadly) situations. In many **Traveller** situations, a rumor is simply information leading to a patron, a job, or a potential treasure; in **Traveller** adventures or campaigns, rumors serve to educate and direct the player characters toward the essential basis of the adventure.

Rumors are faceless. The player character's own decision to act on a rumor makes him or her responsible for the results. There is no one to pin the blame on if the rumor proves false. Rumors are untraceable. No one can definitely point to the source of a rumor and state that it originally began there. Rumors are, in effect, absent patrons, providing information that allows player characters to act, and having once acted, to win or lose on their own merits.

The referee should throw once per week to determine if a rumor is encountered (throw 7+ on 2D for a rumor to be encountered). If a rumor is found, throw two dice and consult the rumors matrix for the specific rumor involved. The rumors list presents a variety of rumor types. The referee may invent rumors once a rumor is dictated by the list; in the case of specific adventures or campaigns, the referee may determine beforehand that some information is of use to the player characters, and write out a rumors list for the specific situation.

Rumors are valuable, and once player characters know of their potential, they will seek them out. Ultimately, all rumors should be available to the player characters, but they should be doled out slowly in order to insure each rumor is dealt with and understood (if possible).

LEGAL ENCOUNTERS

The law level of each world determines the degree of permissiveness or oppression which prevails. In addition to stating what weaponry is or is not allowed, law level addresses the problem of harassment by local enforcers or police. Permissive worlds allow individuals to settle their own differences and to protect themselves. The likelihood of the local police bothering anyone is remote. On oppressive worlds, the local enforcers are charged with great responsibility and spend much of their time protecting local law and order. As a result, they are much more likely to stop and question strangers, often reducing this procedure

to a simple form of harassment.

The referee should throw once per day for legal encounters (throw local law level or less to avoid an encounter). If an encounter is called for, a local enforcer will stop the adventurers and require identification. The referee should roll for the enforcer's reaction as well, using adverse reactions as an indication of greater harassment, and positive reactions as a potential source of rumors, assistance, or patrons.

PATRONS

The key to adventure in **Traveller** is the patron. When a band of adventurers meets an appropriate patron, they have a person who can give them direction in their activities, and who can reward them for success. The patron is the single most important non-player character possible.

A patron will, if he or she decides to hire a band of adventurers, specify a task or deed to be performed, and then finance reasonable expenses for the pursuit of that task. Some tasks are ordinary in nature, such as employment as armed guards or escorts; other tasks may include the location and procurement of items of great value. Generally, a patron's agreement with a band of adventurers will specify that the patron will receive the item he or she is seeking while all other goods or items acquired will belong to the adventurers. Other possible agreements may call for the adventurers to receive shares in the total profit of the venture, from which their current salaries will be deducted.

Whenever the player characters do not have a patron and they are seeking one, the referee should roll once per week (throw 5+ on 1D for a patron encounter to occur). If one does occur, consult the patron encounters matrix. Before rolling on the matrix, the referee should determine which patron list will be used. Two lists are provided in the encounter tables; in the case of a specific adventure or campaign, the referee may create a special patron list which will more closely reflect the situation in the game. For example, if the current adventure centers on exploration and survey of a poorly charted subsector, then the range of patrons might include merchants anxious for trade franchises or news of new markets, mercenaries looking for new wars to fight, smugglers in search of goods, and government officials attempting to restrain access to the new area.

The listed patron is usually identified by occupation. The referee should create an appropriate non-player character and decide on a mission that the patron will want completed. The situation is then presented to the player characters, reactions determined, and the game proceeds.

ADVENTURE ENCOUNTERS

Often, the player characters acquire a goal and then proceed to accomplish it. In the course of this activity, they are necessarily thrown into contact with a wide variety of individuals who are somehow related to the mission. Such individuals cannot occur randomly, as they depend on the actions of the player characters and on the details of the situation. Such encounters are called adventure encounters, and are generated by the referee as required.

ENCOUNTERS

Encounters occur constantly, and represent the primary means of player-character interaction with others.

There are seven basic types of encounters:

Routine
Random
Rumor
Legal
Patron
Adventure
Animal

ROUTINE ENCOUNTERS

Ordinary people, performing their routine jobs, form the routine encounters to be expected. Examples are clerks in stores or offices. Routine encounters generally have no effect on characters' activities.

Routine encounters occur when necessary.

LEGAL ENCOUNTERS

Characters may expect to be harassed or bothered by local law enforcement officials in direct relation to the local law level.

Throw local law level or less once per day to avoid an interview with a law enforcement official protecting local society.

ANIMAL ENCOUNTERS

Characters may expect, when outside of urban areas, to encounter examples of local animal life.

Animal encounter tables are generated under the rules provided in the animal encounter chapter.

Throw twice per day as directed by the animal encounter table for the local terrain type and world.

ADVENTURE ENCOUNTERS

Characters, in the course of their adventures, may encounter individuals who are part of the events of the adventure. Such individuals may be guards for an estate being invaded, a professor in a laboratory being clandestinely observed, a financier being rescued from kidnappers, or the kidnappers themselves.

Encounters which are direct parts of a scenario or adventure are managed by the referee in accordance with his or her determinations of actions, motivations, and preferences.

ENCOUNTER CHECKLIST

Encounters take place on a recurring basis. The following checklist is a guide to their frequency.

Routine: As necessary.

Adventure: As necessary.

Legal: Daily throw law level or less to avoid legal harassment.

Random: Daily throw 5+ (on 1D) for a random encounter to take place.

Animal: Daily throw as directed on animal encounter table for terrain and world type.

Patron: Weekly throw 5+ (on 1D) for patron to be encountered.

Rumor: Weekly throw 7+ (on 2D) for a rumor to be encountered.

PATRON LIST TWO

11 Naval Officer
12 Scout Administrator
13 Marine Officer
14 Hunter
15 Starport Warden
16 Naval Officer
21 Reporter
22 Technician
23 Doctor
24 Rogue
25 Noble
26 Government Official
31 Barbarian
32 Scout Pilot
33 Pirate
34 Researcher
35 Writer
36 Professor
41 Underworld Leader
42 Scientist
43 Belter
44 Naval Architect
45 Steward
46 Financier
51 Navigator
52 Swindler
53 Broker
54 Arms Merchant
55 Doctor
56 Pilot
61 Merchant
62 Rogue
63 Embezzler
64 Belter
65 Bureaucrat
66 Diplomat

Patron Encounter Matrix DMs:

1st Die Roll: If naval character, DM -1. If merchant character, DM +1.

2nd Die Roll: If streetwise-1+, DM -1. If admin-1+, DM +1.

PATRON ENCOUNTERS MATRIX

2nd Die	1	2	3	4	5	6
1	11	12	13	14	15	16
2	21	22	23	24	25	26
3	31	32	33	34	35	36
4	41	42	43	44	45	46
5	51	52	53	54	55	56
6	61	62	63	64	65	66

Before consulting this matrix, determine which patron list (list one or list two below, or a distinct specially generated list) will be used to determine the specific patron to be encountered. Implement the appropriate DMs from the list to be used.

PATRON LIST ONE

11 Arsonist
12 Cutthroat
13 Assassin
14 Hijacker
15 Smuggler
16 Terrorist
21 Crewmember
22 Peasant
23 Rumor
24 Clerk
25 Soldier
26 Shopkeeper
31 Shipowner
32 Tourist
33 Merchant
34 Police
35 Scout
36 Rumor
41 Diplomat
42 Courier
43 Spy
44 Scholar
45 Governor
46 Administrator
51 Mercenary
52 Naval Officer
53 Marine Officer
54 Scout
55 Army Officer
56 Mercenary
61 Noble
62 Playboy
63 Avenger
64 Emigre
65 Speculator
66 Rumor

Patron Encounter Matrix DMs:

1st Die Roll: If merchant DM -1. If noble (social standing 11+), DM +1.

2nd Die Roll: If other DM -1. If army or marine character, DM +1.

RANDOM ENCOUNTERS MATRIX

2nd Die	1st Die	Roll	2nd Die	1st Die	Roll
1	1	11	1	1	11
1	2	12	1	2	12
2	1	21	2	1	21
2	2	22	2	2	22
3	1	31	3	1	31
3	2	32	3	2	32
4	1	41	4	1	41
4	2	42	4	2	42
5	1	51	5	1	51
5	2	52	5	2	52
6	1	61	6	1	61
6	2	62	6	2	62

Consult this matrix daily on a throw of 5+ (on 1D) in any circumstance which would allow an encounter with other people.

RANDOM ENCOUNTER LIST

Qty	Type	Remarks
11	1D Peasants	-3
12	2D Peasants	-2
13	2D Workers	-1
14	3D Rowdies	L
15	2D Thugs	L
16	4D Riotous Mob	-1
21	2D Soldiers	+1 LGA
22	2D Soldiers	LGAV
23	1D Police Patrol	+1 GA
24	2D Marines	LGA
25	3D Security Troops	+1 GA
26	2D Soldiers on Patrol	LGA
31	1D Adventurers	+2 GAV
32	2D Noble with Retinue	LGAV
33	2D Hunters and Guides	+1 LGV
34	2D Tourists	+2
35	1D Researchers	+3 V
36	1D Police Patrol	VG
41	1D Fugitives	-2
42	2D Fugitives	V
43	3D Fugitives	G
44	2D Vigilantes	G
45	3D Bandits	L
46	3D Ambushing Brigands	LGA
51	1D Merchants	+1 LA
52	2D Traders	GV
53	2D Religious Group	
54	1D Beggars	L
55	5D Pilgrims	A
56	3D Guards	A

61
62
63
64
65
66

Remarks: All encountered individuals have necessary survival equipment such as vacc suits, filter masks, or respirators, regardless of local tech level (equipment may be assumed to be imported if necessary). Unless otherwise stated, all individuals are armed with blades (not guns), unarmored, and are on foot.

Abbreviations indicate special equipment levels for the encounter. L: a leader is present; he or she will have the best possible equipment for the tech level. G: the group is armed with guns. A: the group wears armor. V: the group has a vehicle consistent with local tech level (vehicle includes riding animals). -N (where N is any number): tech level for the group is that number lower than local tech level. +N (where N is any number): tech level for the group is that number greater than local tech level.

RUMORS MATRIX

2nd Die	1st Die	Roll	2nd Die	1st Die	Roll
1	A	B	1	A	B
2	G	U	2	G	U
3	I	Y	3	I	Y
4	K	X	4	K	X
5	M	X	5	M	X
6	O	P	6	O	P

Consult this matrix weekly on a throw of 7+ (on 2D). Also consult this matrix if rumor is a patron encounter result.

RUMOR LIST

Specific Rumors
A Background information
B Minor fact
C Major fact
D Partial (potentially misleading) fact
E Veiled clue
F Information leading to trap
G Location data
H Important fact
I Obvious clue
J Completely false information
K Terminology
L Library data reference
M Helpful data
N Location data
O Reliable recommendation to action
P Major fact
Q Background information
R Minor fact
S Veiled clue
T Misleading clue
General Rumors
U Broad background information
V Misleading background information
W Reference to library data
X General location data
Y Specific background data
Z Misleading background data

Rumor Matrix DMs

The referee, when constructing a rumor matrix, must take into account the possible differences in character types and their predisposition to receiving specific types of rumors. Specific DMs on the matrix may be established.

REACTIONS

Die	Reaction
2	Violent. Immediate attack.
3	Hostile. Attack on 5+.
4	Hostile. Attack on 8+.
5	Hostile. May attack.
6	Unreceptive.
7	Non-committal.
8	Interested.
9	Intrigued.
10	Responsive.
11	Enthusiastic.
12	Genuinely friendly.

Throws of 2 and 12 (exactly on the dice) are not subject to DMs. Modified results of less than 3 are 3 and more than 12 are 12. DM +1 if character served 5+ terms in army, navy, scouts, or marines. DM-1 if world population is 9 or greater.

AVAILABLE WEAPONS BY TL

Tech	Weapons	Armor
0	club, cudgel, spear	
1	dagger, pike, sword	jack
2	halberd, broadsword	
3	foil, cutlass, blade, bayonet	
4	revolver, shotgun	
5	carbine, rifle, pistol, SMG	
6	automatic rifle	cloth
7	body pistol	mesh
8	laser carbine	vacc suit
9	laser rifle	ablat
10		reflec
11		combat armor
12		
13		battle dress

PROHIBITED WEAPONS BY LL

Law	Weapons Prohibited
0	none
1	body pistol, bombs, grenades
2	laser rifle, laser carbine
3	automatic rifles
4	submachineguns
5	pistols, revolvers
6	rifles, carbines
7	shotguns
8	all blades but dagger
9	all weapons outside the home
A	all weapons

For example, if the travellers have acquired a patron (a financier whose daughter has been kidnapped), and they accept the patron's mission (rescue the daughter), then many of the encounters to come will be dictated by the situation. These are adventure encounters. They may include interviews with witnesses, discussions with police or private investigators, observations of likely suspects, conversations with data librarians, observations of guards at the kidnappers' hideout, and rescue of the daughter herself. No table of random events or personalities can provide these individuals; the referee must produce them in anticipation of, or in response to, the player characters' actions.

ANIMAL ENCOUNTERS

The animal life to be encountered on various alien worlds may pose dangers to the adventurers, and animal encounter tables based on world type and terrain type are used to determine what kinds of animals may be met and how they will react.

The referee should roll for an animal encounter twice per day as instructed on the animal encounter table for the specific local terrain.

Animal encounter tables are produced using the generation system shown in the chapter on animal encounters.

REACTIONS

When non-player characters are encountered, their reactions will dictate their activity in terms of business deals, violence, assistance, charity, cooperation, and a number of other actions. When an encounter occurs, throw two dice and consult the reaction table. Dice throws of 2 and 12 (exactly) are not subject to DMs; any other result is subject to DMs, modified results of less than 3 becoming 3 and greater than 12 becoming 12.

The following general DMs apply; others may be called for by a specific situation. If a character has served 5 or more terms in the army, navy, marines, or scouts, DM +1. If planetary population is 9 or greater, DM -1.

Reaction throws are made upon initial encounter, and one throw determines the reaction of an entire group.

Reactions are used by the referee and by players as a guide to the probable actions of individuals. They determine responses to business offers or deals (admin or bribery expertise serves as a DM). Reactions govern the reliability and quality of hirelings and employees. Generally, they would re-roll reactions in the face of bad treatment or dangerous tasks.

Note that the reactions are expressed in general terms, and that they require interpretation by the referee. For example, attacks by reacting characters may not be physical; they may instead be verbal or psychological, depending on local law level, the situation, and the appropriateness of the action to the character.

REFeree's RESPONSIBILITIES

In administering any encounter, the referee must be responsible for the details of the situation and of the encountered non-player characters. The encounter charts and tables include synopses of available weapons and armor by tech level, and available weapons by law level. The player characters, as they become familiar with the rules for *Traveller*, will come to expect certain levels of weaponry and equipment at various law levels and tech levels. Such familiarity is to be expected and allows them to cope with the role-playing aspects of the *Traveller* system. The referee must insure that the encountered NPCs are properly equipped and consistent with the rules that the players know. That is not to say that encounters cannot be equipped above a local tech level or law level, but there should be a definite reason (special permission from local authorities; imported or smuggled equipment; military issue) for any inconsistency.

Additional Tables: The various encounter tables have been presented in such a way that the referee can easily produce additional lists or tables in order to vary the types of encounters to be expected. Such variation is a positive addition in that it makes the universe the player characters adventure in more diverse.

Checklist: The encounter checklist provides a quick guide to the expected frequency of encounters during a scenario, adventure, or campaign.



Experience

Characters already know their basic physical and mental parameters: their basic educational and physical development have already occurred, and further improvement can only take place through dedicated endeavor. Experience gained as the character travels and adventures is, in a very real sense, an increased ability to play the role which he or she has assumed.

Self-Improvement: Limited personal development and experience is possible in the sense of increasing abilities and skills. Such potential for increases is possible in four specific areas, only one of which may be attempted at one time: education, weapon expertise, physical fitness, and other skills.

In each field, the character selects a four-year program of self-improvement, dedicating his or her endeavors in something like obsession. Because individuals do not always have the will to carry out such a program, there is the chance that it will be planned, but never carried out. After the general field has been chosen, the character must make a dedication die roll. Throw 8+; no DMs apply except for the physical fitness program, in which case allow a DM of +2 if intelligence is 8-, +4 if intelligence 5-. Failure to achieve this throw indicates that the program is not carried out, and a new one may not be attempted for at least one year. Success in the throw indicates that the program is undertaken.

The pursuit of any program envisions that the required materials are available on a regular basis. Weapons training requires the weapons specified; tutoring requires a tutor. If the required materials are not available, the program is suspended temporarily, but the benefits are not lost if the suspension is of less than three months duration.

EDUCATION

A character with education lower than intelligence may improve education through correspondence courses and tutoring. Such courses (or tutors) have a base price of CR 50 per week; one session per week is taken, though two per week are possible. Fifty sessions increase education by one. In any four year period, education may be increased a maximum of six levels. Education increases are permanent.

Sabbatical: Any character may, once during his or her life, take a sabbatical (for four years) for the purpose of specifically gaining a skill through education. Such activity is the equivalent of a technical school or college education, and allows the acquisition of one specific non-weapon skill with a level of 2. Cost of this education is Cr70,000.

WEAPON EXPERTISE

A character's skill in a weapon is native trained ability; additional training and dedicated practice with specific weapons may provide better levels on a temporary basis. Skilled marksmen achieve their best work when at the peak of their training. One gun and one blade may be chosen; skill in each is increased by 1 for the duration of the program. If the character has skill-0 in the chosen weapon, that weapon skill is increased to 1, permanently. At the end of this program, skill increases are lost unless the program is extended or continued formally for another four years. After a second four year program, the improved skill level becomes permanent. This permanent level may then itself be temporarily improved by further programs. Any weapons may be chosen for this program, and one or both weapons may be dropped for new ones in later program.

For example, Johnson has skills of foil-0 and revolver-3, and chooses to practice in these weapons. After successfully making his throw of 8+ for dedication to purpose, his skill levels for these weapons become foil-1 and revolver-3 if he does not continue his program of training. Johnson successfully makes his dedication throw of 8+ again, and continues

in these two weapons. His skill level becomes foil-2 and revolver-4. At the end of that four year program, he elects to abandon this self-improvement for another program, and his weapons skills revert to foil-1 and (because he has spent a second four year program on revolver) revolver-4.

When new or exotic weapons become available (especially those not described in character generation), it is possible to acquire skill in them through this training program.

SKILL IMPROVEMENT

A character may temporarily improve his skill in another field by dedicating himself to it for a program of 4 years duration. Only two skills may be chosen, and the individual must already have at least skill-1 in each skill. Skill level reverts to the original level at the end of the program. If the program continues for a second four years, the new skill level becomes permanent at the end of that time.

PHYSICAL FITNESS

Strict physical training can increase individual physical characteristics. If the dedication throw is made, strength, dexterity, and endurance are increased by 1. This increase remains in effect for the duration of the physical fitness program. Physical characteristics may never be increased to more than 15.

ALTERNATIVES

The above situations are the only ordinary methods of self-improvement available to characters. Highly scientific or very esoteric methods of improving personal skills and characteristics are logically available, provided the individuals search hard enough for them. Such methods could include RNA intelligence or education implants, surgical alteration, military or mercenary training, and other systems.

Such alternatives to the above methods must be administered by the referee.

Trade and Commerce

Although most commercial starships routinely carry cargos as common carriers, charging a flat rate of Cr1,000 per ton for the service, many also engage in speculation by buying goods at low prices, transporting them in spare cargo space, and then selling them for higher prices in markets anxious to have them.

A reasonably comprehensive listing of trade goods and speculation items is presented in the trade and speculation table. Some of the trade goods may provide a smaller return than Cr1,000 per ton, but still enough to relieve the burden of shipping empty hold space. All listed trade goods have a specified base price which indicates the absolute value of the goods on a constant scale. The actual value table indicates the price such goods may be purchased for, by showing a percentage modification to the base price. Upon arriving at a potential market, the selling price may also be determined as a percentage of the base price (not actual purchase price).

PROCEDURE

A trader with cargo space available and free capital with which to speculate may seek out suitable goods to buy and sell. Throw two dice, noting their results consecutively, to create a number between 11 and 66; DM +1 on the first digit if population 9+, and DM -1 if population 5-. A modified throw of less than 1 is 1, and a modified throw of greater than 6 is 6. This throw indicates that the characters have determined this type of trade good is the best item available for their purposes. Throw once per week.

The quantity of goods available is then determined. Throw the number of dice and multiply as shown (3Dx5 indicates the result of three dice multiplied by five). The lot contains this quantity of goods, expressed in tons except in the case of items 51 through 56, which are expressed per each item (the referee must determine the exact tonnage of these items). Goods are available up to the quantity encountered. Partial purchases may be made if the characters desire; partial purchases require a handling fee of 1%.

The price of goods is determined from the actual value table; a two-dice throw determines the percentage of the base price to be paid. This value multiplied by the quantity of goods in the lot gives the net cost of the items. The actual value table is subject to DMs from character skills, broker's services, and trade classifications.

Broker's Services: Brokers may assist in the sale of goods



delivered to a world. Each must be paid his fee even if the seller decides not to sell his goods. Brokers may provide DMs from +1 to +4, at a cost of 5% of the sale per +1 provided (a +1 broker receives 5%; a +4 broker receives 20%). The DM may never be higher than +4. Only one broker may assist with a sale.

Character Skills: If characters are skilled in bribery or admin, they may apply these as DMs for the sale of goods. Only one character may influence a sale.

Trade Classifications: The trade and speculation table indicates purchase and resale DMs based on trade classifications. There are six classifications of interest: agricultural and non-agricultural, industrial and non-industrial, rich and poor worlds. A world may meet the criteria for more than one label (and be poor, non-industrial, for example). In this case, the world is subject to the DMs for each such label when using the trade and speculation table.

TRADE GOODS

The trade and speculation table lists many types of goods, often of general classes which may be of interest to characters for various uses. The goods labels are abstractions, such that a cargo of firearms could potentially be any form from muzzleloading replicas to laser carbines. Should characters wish to divert some part of the cargo to personal use (through payment or pilferage), the exact type of cargo must be determined by the referee.

When determining the contents of a cargo, the players and referee must be certain to correlate the established price of goods with the cost per ton. For example, the base price of a shotgun is Cr150, while a ton of firearms as trade goods has a base price of Cr30,000. A strict weight extension of the shotgun (3.75 kg per shotgun) would indicate 266 shotguns. Extension should be instead based on price, with weight as a limiting factor. Thus one ton of shotguns would contain 200 guns, at Cr150 each. The extra weight can be considered packing and crates. Similar calculations should be made to keep prices in line on other trade goods.

Some goods (those results 51 - 56, and 66 on the table) are sold individually instead of by the ton. Quantity is expressed in single units; tonnage and base prices must be determined by the players or referee in accordance with established prices and equipment.

TRADE AND SPECULATION

ACTUAL VALUE

<i>Die Trade Goods</i>	<i>Base Price</i>	<i>Purchase DMs</i>	<i>Resale DMs</i>	<i>Quantity</i>
11 Textiles	3,000	A-7, NA-5, NI-3	A-6, NA+1, R+3	3Dx5
12 Polymers	7,000	I-2, R-3, P+2	I-2, R+3	4Dx5
13 Liquor	10,000	A-4	A-3, I+1, R+2	1Dx5
14 Wood	1,000	A-6	A-6, I+1, R+2	2Dx10
15 Crystals	20,000	NA-3, I+4	NA-3, I+3, R+3	1D
16 Radioactives	1,000,000	I+7, NI-3, R+5	I+6, NI-3, R-4	1D
21 Steel	500	I-2, R-1, P+1	I-2, R-1, P+3	4Dx10
22 Copper	2,000	I-3, R-2, P+1	I-3, R-1	2Dx10
23 Aluminum	1,000	I-3, R-2, P+1	I-3, NI+4, R-1	5Dx10
24 Tin	9,000	I-3, R-2, P+1	I-3, R-1	3Dx10
25 Silver	70,000	I+5, R-1, P+2	I+5, R-1	1Dx5
26 Special Alloys	200,000	I-3, NI+5, R-2	I-3, NI+4, R-1	1D
31 Petrochemicals	10,000	NA-4, I+1, NI-5	NA-4, I+3, NI-5	1D
32 Grain	300	A-2, NA+1, I+2	A-2	8Dx5
33 Meat	1,500	A-2, NA+2, I+3	A-2, I+2, P+1	4Dx5
34 Spices	6,000	A-2, NA+3, I+2	A-2, R+2, P+3	1Dx5
35 Fruit	1,000	A-3, NA+1, I+2	A-2, I+3, P+2	2Dx5
36 Pharmaceuticals	100,000	NA-3, I+4, P+3	NA-3, I+5, R+4	1D
41 Gems	1,000,000	I+4, NI-8, P-3	I+4, NI-2, R+8	1D
42 Firearms	30,000	I-3, R-2, P+3	I-2, R-1, P+3	2D
43 Ammunition	30,000	I-3, R-2, P+3	I-2, R-1, P+3	2D
44 Blades	10,000	I-3, R-2, P+3	I-2, R-1, P+3	2D
45 Tools	10,000	I-3, R-2, P+3	I-2, R-1, P+3	2D
46 Body Armor	50,000	I-1, R-3, P+3	I-2, R+1, P+4	2D
51 Aircraft	1,000,000	I-4, R-3	NI+2, P+1	1D
52 Air/raft	600,000	I-3, R-2	NI+2, P+1	1D
53 Computers	10,000,000	I-2, R-2	NI+2, P+1, A-3	1D
54 All Terrain Vehicles	30,000	I-2, R-2	NI+2, P+1, A+1	1D
55 Armored Vehicles	70,000	I-5, R-2, P+4	NA-2, A+2, R+1	1D
56 Farm Machinery	150,000	I-5, R-2	A+5, NA-8, P+1	1D
61 Electronics Parts	100,000	I-4, R-3	NI+2, P+1	1Dx5
62 Mechanical Parts	70,000	I-5, R-3	NI+3, A+2	1Dx5
63 Cybernetic Parts	250,000	I-4, R-1	NI+4, A+1, NA+2	1Dx5
64 Computer Parts	150,000	I-5, R-3	NI+3, A+1, NA+2	1Dx5
65 Machine Tools	750,000	I-5, R-4	NI+3, A+1, NA+2	1Dx5
66 Vacc Suits	400,000	NA-5, I-3, R-1	NA-1, NI+2, P+1	1Dx5

Use this table to determine goods and prices for goods available for trade. Die indicates two consecutive die rolls. Base price is the unaltered value of the goods. Purchase DMs alter this value based on the world where purchased. Resale DMs alter this value based on the world where offered for resale. Quantity is the amount of goods in the available lot. Items 11 through 46 and 61 through 66 are expressed in tons; items 51 through 56 are expressed per each single item.

Abbreviations: A= Agricultural World, NA= Non-agricultural World, P= Poor World, R= Rich World, I= Industrial World, NI= Non-industrial World.

Dice Roll
Percentage Value

2	40%
3	50%
4	70%
5	80%
6	90%
7	100%
8	110%
9	120%
10	130%
11	150%
12	170%
13	200%
14	300%
15	400%

Results of less than 2 are treated as 2; results of greater than 15 are treated as 15.

TRADE AND SPECULATION DMs

Brokers: Four types of brokers are available:

DM +1	5% commission
DM +2	10% commission
DM +3	15% commission
DM +4	20% commission

Character Skills: Bribery skill and admin skill may be used as a DM at the level of the skill.

World Types: Trade classifications for worlds may be used to influence transactions as indicated on the trade and speculation table.

Agricultural: Atmosphere 4-9, hydrographics 4-8, population 5-7.

Non-Agricultural: Atmosphere 3-, population 6+.

Industrial: Atmosphere 0-2, 4, 7, or 9, population 9+.

Non-Industrial: Population 6-.

Rich: Atmosphere 6 or 8, population 6-8, government 4-9.

Poor: Atmosphere 2-5, hydrographics 3-.

DRUGS

<i>Drug Type</i>	<i>Price</i>	<i>Tech</i>	<i>Availability</i>	<i>Remarks</i>
Slow	500	8	9+	2:1 slower than normal; 2 subjective minutes equal 1 objective minute
Medical Slow	100	7	7+	30:1 slower than normal; user is unconscious during effects.
Slow Antidote	600	10	10+	Counteracts slow drug.
Fast	200	9	8+	60:1 faster than normal; 1 subjective minute equals 1 objective hour.
Fast Antidote	900	12	9+	Counteracts fast drug.
Anagathic	20,000	15	10+	User avoids all aging throws if taken once per month.
Truth	5,000	8	7+	Compels two minutes of truth.
Combat	750	9	6+	Provides +2 strength and endurance.
Medical	100	6	9+	Aids recovery and healing.
Psi-Booster	1,000	—	8+	Increases psionic strength +3 for one hour.
Psi-Double	4,000	—	10+	Increases psionic strength +6 for one hour.
Psi-Special	10,000	—	12+	Increases psionic strength +1 per hour to maximum 15.

Drugs

A variety of pharmacological means are available to travellers for medicinal (and other) purposes. Each drug has its own advantages and disadvantages; users should be aware of their effects. Six common types of drug are well-known: slow drug, fast drug, combat drug, medical drug, anagathics, and truth drug. Psi drug is a seventh, less common type.

Dosages: The six drug types, for the sake of uniformity and for ease of use, are available in consistent, one-dose pill form. Other drugs may be available in a variety of forms and dosages.

Synergy: If more than one drug is taken (except medical drug), the combination may have an adverse effect, called synergy. In addition to all other effects of drugs, throw one die for each drug taken, and multiply the results together. The number indicates hits received as a result of synergy, and are inflicted at the end of the period of drug use.

Legality: The use or possession of certain drugs may be restricted by local law. Throw the law level or greater for a specific drug to be legal and unrestricted on any specific world. DMs may be allowed for starship crews, medical personnel, or other specifically authorized individuals.

SPECIFIC DRUG TYPES

The following six drug types are common throughout the civilized universe.

Slow drug is named because it makes the universe (from the user's viewpoint) appear to move more slowly. This effect is achieved by accelerating the user's metabolism. In effect, the user lives approximately twice as fast as normal.

Slow drug takes effect after three firing rounds (45 seconds), and continuing to function for 40 (real time) firing rounds. At the end of its effect, the user receives 1D in wounds. The person is extremely fatigued, being treated as if all available combat swings have been taken, and must recover from that fatigue. A person under slow drug (because he or she is living at twice the normal rate) is allowed two combat rounds to each one available to normal individuals. The person can fire a weapon twice, or make two combat swings or blows, or move twice as far as normally.

A medical slow drug is also available, being used to hasten recovery from wounds or illness. One dose causes unconsciousness, and the passage of thirty days equivalent time in one day. During this period, ordinary healing takes place. No wounds or hits are received from the use of medical slow drug. Be certain to note the passage of time at the increased rate during period of drug use. The individual is unconscious or semi-conscious while under the influence of medical slow drug.

Fast drug is named because it makes the universe (to its user) appear to move much more quickly; the drug slows down personal metabolism at a ratio of approximately 60 to 1. Users are extremely vulnerable because they are living at such a slow rate; but physical aging is also slowed, and the need for consumable supplies is reduced, thus allowing conservation of air and food. Fast drug takes effect immediately upon ingestion; one dose lasts for 60 days, making that time appear to be only one day.

Combat drug is taken by fighters (usually military personnel) prior to combat. It increases personal strength and endurance each by two. The effect begins two combat rounds after being taken, and lasts for 30 combat rounds. When the effect wears off, the user receives 1D in wounds.

Medical drug (often called panacea) is a general term describing the set of drugs used by medical personnel in the treatment of illness or injury. Generally, medical drug must be administered by a person with medical expertise, and the drug serves as medical treatment. Medical drug is often used in conjunction with medical slow drug.

Anagathics are drugs which counteract the aging process. A regimen of regular monthly doses enables an individual to ignore the aging die throws and their potential for debilitation. Because of the rarity and demand for anagathics, they are quite expensive, and are often unavailable at any price.

Truth drug is used to compel individuals to answer interrogation truthfully. One dose is sufficient to assure truthful answers for approximately 2 minutes, after which the user experiences one hour of unconsciousness, and 2D in wounds.

ANTIDOTES

Antidotes are available for both slow and fast drugs which cancel their major effects. The individual is returned to the normal rate of living, but still suffers any indicated recovery requirements.

DRUG AVAILABILITY

The drug table indicates the name, gross effect, base price, technological level of the world on which it is generally available in pill form, and a throw for availability.

Availability indicates the chance that, after determined search, a band of adventurers will find an individual with some of the drug available for sale. Subtract the technological level shown on the table from that of the current world; that number is a DM on the availability throw. For example, slow drug is available at tech level 8, and the adventurers are on a tech level 12 world. The DM is +4 (12-8=4). On a tech level 4 world, the DM would be -4 (8-12=-4). DMs may also be allowed for bribery, streetwise, or medical skill.

Adventures: If any specific drug becomes important to the player characters, then the referee may make drug availability dependent upon the outcome of a scenario or adventure.

Equipment

The infinity of physical objects in the universe and the variation in their potential costs and values defy classification; it is impossible to note and define them all. The objects below are presented as indications of common qualities and values.

Each listing notes the object's name, followed by its technological level in parentheses, a price in credits, and a basic description. The technological level indicates local technology required to manufacture something with the capabilities listed. Price and weight are for an item manufactured by an interstellar society of tech level 10 to 15; items produced at lower tech levels (including the one mentioned in the description) will probably be bulkier and more expensive. An item with no weight or size given can be carried or worn without difficulty. Additional lines of explanation are given where considered necessary.

This listing may be considered a shopping list for travellers. When they originally outfit themselves for an adventure, each may purchase or acquire items from this list in preparation for action or mishap. For the most part, this list does not include weaponry, and all items are generally available for purchase without difficulty on worlds with a sufficient technology level (on other worlds, they may be available as imports at higher prices). Often, the base price for these items will be altered higher or lower using the trade and speculation rules for percentage price changes.

This chapter is divided into the following sections: personal equipment, personal devices, enhanced sensory apparatus, communicators, tools, shelters, food and subsistence, and vehicles. Weapons, armor, and accessories are listed in the chapter on personal combat.

PERSONAL EQUIPMENT

The following are personal survival items often needed by individuals.

Respirator (5) Cr100. A small compressor which allows an individual to breathe in very thin atmospheres (type 3).

Filter Mask (3) Cr10. A filter set which allows an individual to breathe tainted atmospheres (types 4, 7, and 9).

Combination (5) Cr150. A combination of both filter mask and respirator which allows breathing of very thin, tainted atmospheres (type 2).

Oxygen Tanks (5) Cr500. A complete set of compressed oxygen tanks which allows independent breathing in smoke, dust, gas, or exotic atmosphere (type A, and special situations). Two tanks last 6 hours, weigh 5 kg. Refill: Cr20.

Underwater Air Tanks (5) Cr800. Equivalent to oxygen tanks but designed for use underwater. Tanks include regulator and breathing connections. Two tanks last 6 hours and weigh 5 kg. Refill: Cr20.

Artificial Gill (8) Cr4000. Extracts oxygen from water to allow unlimited time submerged. Functions only on worlds with thin, standard, or dense atmospheres (types 4 through 9). Weighs 4 kg.

Swimming Equipment (3) Cr200. Includes swim fins, wet suit, face mask. Weighs 1 kg.

Protective Suit (5) Cr700. Protects against corrosive atmosphere (type B). Protects against insidious atmosphere (type C) for 2 to 12 hours. Weighs 5 kg and is treated as jack armor.

Heavy Protective Suit (5) Cr1400. Protects against corrosive atmosphere (type B). Protects against insidious atmosphere (type C) for 2 to 12 hours. Treated as cloth armor and weighs 7 kg.

Vacc Suit (8) Cr10,000. Worn in vacuum, trace, exotic, or corrosive atmospheres (types 0, 1, and A+). Can be worn in any atmosphere for protection against local contamination or insufficiency. Protects against insidious

atmosphere (type C) for 2 to 12 hours. Includes oxygen tanks for six hours and short range (5km) communicators. Attachment points for load-carrying devices such as backpacks, holsters, and tool belts are provided. Weighs 10 kg and treated as cloth armor.

Vacc Suit (9) Cr10,000. Similar to tech level 8 vacc suit but communicator is capable of 10km range and suit weighs 8 kg.

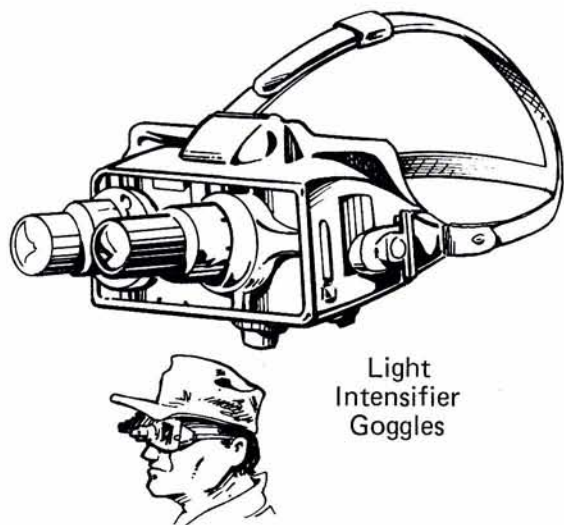
Vacc Suit (10) Cr10,000. Similar to tech level 8 vacc suit but communicator is capable of 20km range and suit weighs 6 kg.

Vacc Suit (11) Cr10,000. Similar to tech level 8 vacc suit but communicator is capable of 30km range and suit weighs 4 kg.

Vacc Suit (12) Cr10,000. Similar to tech level 8 vacc suit but communicator is capable of 40km range and suit weighs 2 kg.



Filter Mask



Light
Intensifier
Goggles

Vacc Suit (13) Cr10,000. Similar to tech level 8 vacc suit but communicator is capable of 50km range and suit has no apparent weight to wearer.

Cold Weather Clothing (1) Cr200. Protects against frigid weather. Outfit weighs 2kg and is treated as jack armor.

Cold Weather Clothing (10) Cr800. Protects against frigid weather. Outfit has no apparent weight and is treated as jack armor.

Survival Bubble (9) Cr600. A large (2 meter diameter) plastic sphere with alternating clear and opaque panels, and a small oxygen tank (capable of supporting one person for two hours) for inflation. Access to the interior is through a conforming plastic seal which functions similar to an air lock. The bubble can be used for life support in vacuum (it can be moved by walking on the inside treadmill fashion), and can also be used for protection against weather or as a lifeboat on a sea surface. Weight: 3 kg.

PERSONAL DEVICES

The following is an assortment of devices which individuals may find useful.

Magnetic Compass (3) Cr10. Indicates direction of local magnetic north, if the world has magnetic poles. May be influenced and give false readings in the vicinity of large masses of iron.

Inertial Locator (9) Cr1200. Indicates direction and distance travelled from any pre-set starting location. Accuracy to within 0.1% of total distance travelled. Weighs 1500 grams and may be carried on a belt or sling.

Metal Detector (6) Cr300. Indicates presence of most metals, although degree of reaction depends on amount of metal present and on proximity. Weighs 1 kg.

Radiation Counter (5) Cr250. Indicates presence and intensity of radioactivity. Can be preset to give a warning signal if levels of radioactivity raise to dangerous levels. Weighs 1 kg.

Bull-Horn (5) Cr120. Amplifies voice to very long range. Weighs 500 grams, but is very bulky and awkward to carry.

Hand Calculator (7) Cr10. Provides basic mathematical calculations. Weighs 100 grams.

Hand Computer (11) Cr1000. Provides services of a small computer (equivalent to Model/1 in computing power), plus serves as a computer terminal when linked to a larger computer (such as on board a ship). Weighs 500 grams.

Artificial Psionic Shield Helmet (8) Cr4000. Acts as a shield against psionic forces, preventing undesirable telepathic influences or psionic assaults. Weighs 1 kg.

Handcuffs (2) Cr25. Weighs 300 grams and completely prevents use of hands by a prisoner. Higher tech levels produce lighter designs.

Wrist Watch (4) Cr25 to CR 1000. Price determines quality.

SENSORY AIDS

The following items are generally used to allow enhanced vision:

Binoculars (3) Cr75. Allow improved vision at greater distances than would unaided eyes. Availability of binoculars (if used regularly) may provide DM+1 against surprise in encounter situations. Weigh 1 kg.

Infrared Goggles (6) Cr500. Allows wearer to see heat sources (infrared radiation such as operating heat engines, animals, or people) in the dark. The quality of vision is necessarily distorted as heat sources, not reflected light images, are being viewed. IR Goggles may allow darkness penalties in night or combat situations to be reduced or ignored.

Light Intensifier Goggles (7) Cr500. Allows vision by intensifying ambient light, and is usable in anything less than total darkness. LI Goggles may allow darkness penalties in night or combat situations to be reduced or ignored.

Torches (1) Cr1. Each lasts about 20 minutes and weighs 250 grams.

Electric Torches (5) Cr10. Each lasts about 6 hours in continuous use and weighs 500 grams.

Gas or Oil Lamp (2) Cr10. Provides about 6 hours light (and heat) and weighs 500 grams. Refills of oil or gas cost Cr2 each.

Cold Light Lantern (6) Cr20. Provides 3 days light (no heat) in continuous use. Recharge of glow stuff costs Cr2. Weighs 250 grams.

Voice Recorder (6) Cr100. Records voice on small tape cassette for later playback or transcription. At tech level 13, recordings are made to holographic crystals of ten hour capacity. Tapes or crystals cost Cr1. Voice recorder weighs 500 grams.

Shotgun Microphone (8) Cr300. Acquires sounds from a specific point up to very long (500 meters) range and reproduces them for listening or recording. Weighs 1500 grams.

Video Recorder (8) Cr900. Electronic recorder of visual images, either as single frames or sequential motion pictures using integral camera and lens system. Information is recorded on small visual tape cassettes for later viewing. At tech level 13, recording is on holographic crystals. Each tape can hold 60,000 distinct images or one hour of motion pictures; crystals can hold ten times that amount. Tapes or crystals cost Cr2 each. Video recorder weighs 1200 grams.

Text Recorder (10) Cr1200. Keyboard and voice operated recorder of data, including notes, letters, and numbers for later analysis (usually by computer). Information is recorded on small tape cassettes costing Cr3. At tech level 13, data is recorded on holographic crystals instead. Tapes can hold approximately 20 million words; crystals can hold ten times that. Text recorder is capable of transcribing voice to text. Weighs 1 kg.

TOOLS

The following tools or tool sets are available:

Carpentry Tool Set (2) Cr300. Includes basic tools necessary to cut, shape, and build with wood. Woodworking may include construction and repair of shelters, buildings, or furniture. Commonly calls for mechanical skill in order to be used properly. Boxed set weighs 25 kg.

Metalwork Tool Set (4) Cr1500. Includes basic tools necessary for metalworking, welding, shaping. Metalwork may include the construction and repair of shelters, vehicle bodywork, and alteration of metal structural items. Calls for mechanical skill in order to be used properly. Boxed set weighs 50 kg.

Chain Saw (6) Cr500. Motorized saw for cutting and shaping trees. Weighs 8 kg.

Mechanical Tool Set (5) Cr1000. Includes basic tools necessary to repair and alter mechanical devices, including vehicles and guns. Calls for mechanical skill in order to be used properly. Boxed set weighs 20 kg.

Medical Kit (7) Cr1000. Contains drugs, surgical supplies, and diagnostic materials for use by doctors. Calls for medical skill in order to be used properly. Weighs 10 kg.

Electronic Tool Set (7) Cr2000. Necessary tools for basic electronic assembly and repair. May be used with any electronic devices such as communicators, detectors, sensors, and control instruments. Calls for electronic skill in order to be used properly. Boxed set weighs 5 kg.

Lockpick Set (4) Cr10. Allows picking of ordinary locks on a throw of 8+; throw once per 15 seconds. Lockpicks are illegal on worlds of law level 8+; on such worlds the cost rises to Cr100 or more.

Disguise Kit (7) Cr1,000. Allows change of personal appearance on a temporary basis. Complete kit weighs 5 kg.

SHELTERS

The following are portable or temporary shelters commonly available:

Tarpaulin (1) Cr10. A canvas or waterproof cloth sheet used for temporary shelter. 2 by 4 meters. Weighs 2 kg.

Tent (2) Cr200. Basic shelter for two persons. Weighs 3 kg. Larger, more elaborate tents weigh and cost more.

Pressure Tent (7) Cr2000. Basic shelter for two persons, providing standard atmosphere. There is no airlock: the tent must be depressurized to enter or leave. Weighs 25 kg.

Pre-Fabricated Cabin (6) Cr10,000. Modular unpressurized quarters for 6 persons. 2 by 6 by 6 meters. Can be carried in the hold of a starship. Weighs 4 tons.

Advanced Base (8) Cr50,000. Modular pressurized quarters for 6 persons, with airlock and atmosphere recirculating system. 2 by 6 by 6 meters. Can be carried in the hold of a starship. Weighs 6 tons.

COMMUNICATORS

Communicator is defined as a radio transmitter/receiver combination capable of operating off an internal power source. It is portable in the sense that it need not be connected to a power supply. It may transmit and receive voice and data. The communicators listed vary primarily in tech level, price, and range. Medium range is the minimum for communication with ships in orbit.

Short Range Communicator (5) Cr225. Capable of ranges up to 5000 meters. Weighs 20 kg.

Short Range Communicator (8) Cr75. Capable of ranges up to 5000 meters. Weighs 100 grams.

Medium Range Communicator (5) Cr750. Capable of ranges up to 50 kilometers. Weighs 70 kg.

Medium Range Communicator (10) Cr250. Capable of ranges up to 50 kilometers. Weighs 400 grams.

Medium Range Communicator (13) Cr250. Capable of ranges up to 50 kilometers. Weighs 100 grams.

Long Range Communicator (5) Cr1500. Capable of ranges up to 500 kilometers. Weighs 150 kg.

Long Range Communicator (9) Cr500. Capable of ranges up to 500 kilometers. Weighs 1200 grams.

Long Range Communicator (14) Cr500. Capable of ranges up to 500 kilometers. Weighs 500 grams.

Continental Range Communicator (5) Cr15000. Capable of ranges up to 5000 kilometers. Weighs 300 kg.

Continental Range Communicator (9) Cr5000. Capable of ranges up to 5000 kilometers. Weighs 1500 grams.

Continental Range Communicator (12) Cr5000. Capable of ranges up to 5000 kilometers. Weighs 1 kg.

FOOD AND OVERHEAD

Food and basic survival may be priced from the following information:

Basic Cuisine on a Daily Basis: Food is available in a variety of forms and qualities. Prices reflect costs per person. Restaurant meals of ordinary quality cost Cr10 per day. Excellent quality meals range in price from Cr20 to Cr50 per person. Travellers' Aid Society facilities provide *excellent quality meals to members and guests for Cr20.*

Food purchased from vendors for preparation at home costs about Cr5 per day, and weighs about 1 kg.

Preserved foods for rations on expeditions may be canned or packaged (Cr20 per day, weighs 500 grams) or dehydrated (Cr25 per day, weighs 200 grams, and is dependent on locally supplied water).

Subsistence on a Long Term Basis: When time must pass quickly, the referee can allow personal survival or subsistence costs at the following values.

Starvation Level: bare minimum of food, Cr60 per month; dismal lodging, Cr60 per month.

Subsistence Level: reasonable food, Cr120 per month; acceptable lodging, Cr180 per month.

Ordinary Level: good food, Cr200 per month; good lodging, Cr200 per month.

High Living: excellent food, Cr600 per month; excellent accommodations, Cr300 per month.

Starships: Passengers and crewmembers have their food and lodging provided, with costs covered by the life support costs necessary for operation of the ship.

Vehicles

Planetary transportation, whether on the world surface, on or under its oceans, in its atmosphere, or even in orbit, is possible through a wide variety of available vehicles. These various forms of transportation will be required by adventurers as they travel away from the starport of a world. The following are general guidelines for the use of vehicles.

Primitive Transportation: On worlds with low technology levels (0 through 3), the local means of transportation will tend to depend on beasts of burden, animal-drawn carts, and watercraft such as galleys and sailing ships. Prices for such items will depend on local situations: animals and wagons are priced in hundreds of credits; ships are priced in the thousands and tens of thousands of credits.

Local beasts of burden and riding animals will be domesticated herbivores similar to animals in local encounter tables and generally of the 200 to 400 kilogram range or above. It is interesting to note that low passage berths had their origin in the transport of animals, and can carry a 400 kg animal if characters wish to bring along their own riding beasts.

Modern Transportation: The transport vehicles available to a modern technological society include aircraft, grav vehicles, tracked vehicles, wheeled vehicles, and watercraft. Aircraft are further divided into helicopters, propeller-driven aircraft, and jet-propelled aircraft; watercraft are further divided into small watercraft, hovercraft, submersibles, and large watercraft. In addition, interplanetary ships and interplanetary small craft are available.

Transport Skills: The categories of vehicles available parallel the available transport skills for characters. Individuals usually must have skill in a specific vehicle type in order to properly operate that form of transportation. All vehicles within a category can be operated by a person possessing the skill for that category. For example, all tracked vehicles can be operated by an individual with tracked vehicle skill. If a category has divisions (for example, aircraft), then the character may operate vehicles within a specific division with an appropriate skill (for example, jet aircraft), and other divisions within the category (for example, propeller-driven aircraft and helicopter) at the skill level minus 1.

There is some latitude and interchangeability for some of the skills available. All characters are assumed to be able to operate wheeled vehicles (in slow speed, non-dangerous situations) without any skill. Air/raft skill and grav vehicle skill are interchangeable and identical. ATV skill allows an individual to operate both wheeled and tracked vehicles. Pilot skill, in addition to allowing operation of starships and interplanetary ships, can be used to operate small craft (the equivalent of ship's boat skill) at one less than full level.

AIRCRAFT

Aircraft generate lift by passing air over wing-surfaces, either fixed (as in most aircraft) or rotating (as in helicopters). Aircraft are usable only on worlds with atmospheres of 4+. Although true winged craft appear only at tech level 5+, engineless gliders may be constructed as far back as tech level 0, becoming fairly common at tech level 3.

Aircraft require frequent maintenance (between uses, or daily) in order to insure reliability. The basic throw for a malfunction is 11+, DM +1 for each missed maintenance.

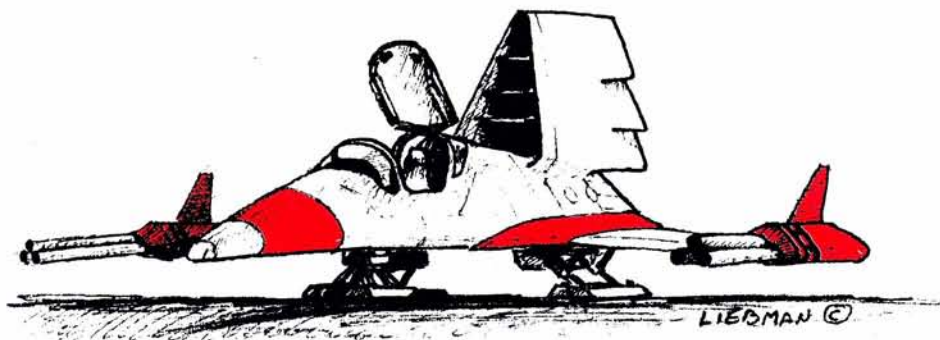
The aircraft category has three divisions for the purpose of skill utilization: helicopters, propeller-driven fixed wing aircraft, and jet-propelled fixed wing aircraft. Any character with skill in one division can operate aircraft in a companion division at -1. For example, helicopter-3 could

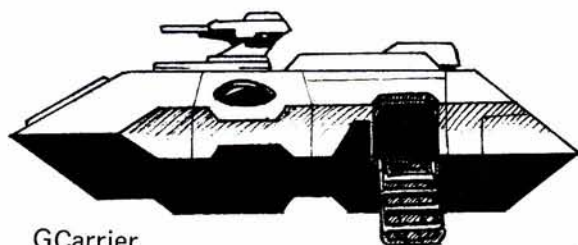
operate propeller and jet fixed wing aircraft at level-2.

The following are some examples of aircraft.

Primitive Biplane Aircraft (5) Cr20,000, 1 ton. A very small, propeller-driven, early model aircraft. It can achieve a cruise speed of 150 kph, with bursts to a maximum of 200 kph; range is three hours flying time. The biplane's engine depends on chemical fuel. The biplane carries two persons (a pilot and a passenger) and 100 kg of cargo.

Fixed Wing Aircraft (6) Cr1,000,000, 5 tons. A twin jet aircraft monoplane intended for cargo transport. The plane cruises at 600 kph (maximum speed is 700 kph) with a range of 3600 km or six hours. Fuel is standard chemical jet fuel. The craft requires a crew of two (only one of whom needs aircraft skill) and can carry six passengers, plus five tons of cargo. Typical wingspan: 15 meters; typical length:





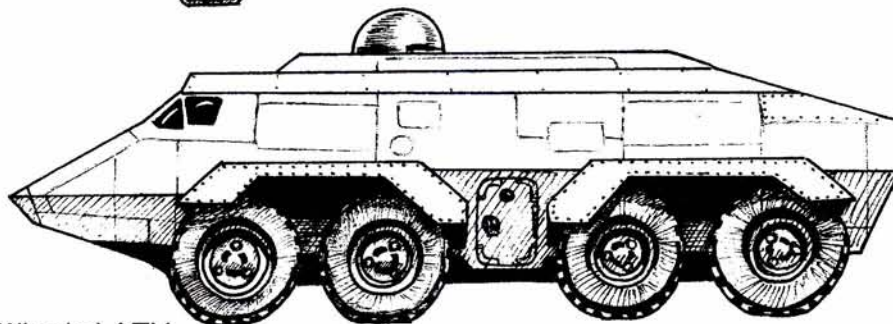
GCarrier



Speeder



Air/Raft



Wheeled ATV

15 meters. Other versions of this aircraft are possible, including seaplanes, and faster, larger, or armed versions.

Helicopter (6) Cr100,000, 1 ton. Single engine rotary wing aircraft capable of vertical take-off and landing as well as maneuverability in tight places. The helicopter can cruise at 200 kph, with a top speed of 250 kph; range is 600 kph. The helicopter has a crew of one, plus seven passengers and 500 kg of cargo.

GRAV VEHICLES

Grav vehicles are the main form of transportation for a high technology society. Above tech level 10, other vehicle types are rarely seen except in a few specialized situations. All grav vehicles are essentially similar in handling characteristics, differing only in performance.

Grav vehicle skill is necessary to operate a grav vehicle. Air/raft skill is a synonym for grav vehicle skill.

Grav vehicles can operate in any environment and are capable of reaching orbit from a world surface (although most cannot do so very rapidly).

Air/Raft (8) Cr600,000, 4 tons. A light anti-gravity vehicle which uses nullgrav modules to counteract gravity for lift and propulsion. An air/raft can cruise at 100 kph (but is extremely subject to wind effects), with some capability of higher speed to about 120 kph. An air/raft can reach orbit in several hours (number of hours equal to planetary size digit in the UPP); passengers must wear vacc suits and interplanetary travel in an air/raft is not possible. Range in time or distance on a world is effectively unlimited, requiring refueling from a ship's power plant every ten weeks or so. An air/raft can carry four persons plus four tons of cargo. The air/raft is unpressurized and usually open-topped.

GCarrier (8) Cr1,000,000, 8 tons. An enclosed military or quasi-military grav vehicle. The GCarrier is an armored air/raft type vehicle intended originally for troop carrier duties. Performance is similar to that of the air/raft, but the

vehicle generally has a gun mount and an armored rear hatch door. It requires a crew of one (with air/raft skill), plus a gunner for the craft's weapon, if any. It can carry 14 persons (including the driver and gunner), plus 2 tons of cargo (or assume 250 kg cargo for each person not carried; thus driver, gunner, and 5 tons cargo).

Speeder (8) Cr1,000,000, 6 tons. A streamlined grav-powered craft intended for high speed transport between points on a world surface. Similar in principle to the air/raft and the GCarrier, the speeder is streamlined and concentrates on speed. It is capable of 1000 kph cruise speed (maximum speed is 1200 kph), and has a virtually unlimited range. Refueling is required every ten weeks from a ship's power plant. The speeder carries a driver (who operates the craft at air/raft skill minus 1), a single passenger, and 100 kg of cargo. The speeder is capable of reaching orbit within an hour.

Grav Belt (12) Cr100,000, negligible weight if on; 10 kg if turned off. Personal anti-gravity transportation using a single null-gravity module and a personal harness. Performance is similar in speed and range to the air/raft.

WHEELED VEHICLES

Wheeled ground vehicles depend on wheels to ease the friction of travel overland. They depend on relatively smooth and unobstructed terrain (roads, prairies, plains) for optimum operation. Wheeled vehicles include cars, trucks, most road vehicles, and wheeled all terrain vehicles.

Any character can operate a wheeled vehicle at slow speeds and under non-dangerous conditions without wheeled vehicle skill. Racing, long-distance, or long-period operation calls for some wheeled vehicle skill.

When characters use wheeled ground vehicles, the referee should note some specific throws which will govern their use. Throw 12+ for mechanical difficulty or failure, allowing DMs for personal expertise, terrain, and perhaps age and condition of the vehicle. Throw 10+ for terrain difficulty if

not on roads or smooth terrain such as plains or prairies, or include such items on animal encounter tables for the current world surface. Note that local law level can be used as the throw (law level +) to avoid such things as speed traps or traffic violation arrests.

The following are examples of wheeled ground vehicles:

Ground Car (5) Cr4,000, 2 tons. An ordinary self-powered wheeled vehicle suitable for local use in civilized areas or on roads. Typically, a ground car has a range of 1000 km, cruises at 100 kph, and has a maximum speed of 150 kph. If capable of off-road travel at all, speed is generally limited to 10 kph. Fuel for a ground car depends on local tech level and fuel sources; it is usually chemical fuel (hydrocarbons or hydrogen) or electric batteries. Most ground cars require a driver, although at higher tech levels the car will steer itself (and on highly civilized worlds driving under human control is illegal in cities). A car can carry five additional passengers plus luggage. Other models (convertibles, sports models, limousines, trucks, motorcycles, unicycles, vans, etc.) may be available at varying prices. The basic ground car is unpressurized. Ground cars are mass production items manufactured for a specific world; they will tend to malfunction when transferred to a world not similar to their world of origin.

Wheeled All Terrain Vehicle (6) Cr30,000, 10 tons. A wheeled vehicle intended for transport across undeveloped areas. A wheeled all terrain vehicle (abbreviated ATV) has a range of 5000 km, cruises on roads at 60 kph, and can achieve a maximum speed of 100 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, maximum speed will be 20 kph or less. (Tracked ATVs are somewhat slower than wheeled versions, but are also more reliable in difficult terrain.) An ATV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack, requiring hydrogen or water for fuel. The ATV is designed to serve admirably on many different worlds under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity. An ATV requires one driver. Passengers can number up to 16; the vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. The vehicle may be lightly armored, and can carry a turret mounting a laser or other local combat weapon.

Wheeled Armored Fighting Vehicle (6) Cr70,000, 10 tons. A wheeled vehicle reinforced with armor and mounted with heavy weapons for combat. The armored fighting vehicle (abbreviated AFV) is very similar to the ATV in performance, range, and fuel requirements. However, the

AFV is armored to withstand most forms of attack, and is equipped with a turret mounting a laser or other weapon. A crew of three (one with ATV skill, one with gunnery skill, and one with no skill required) is called for, with little or no interior facilities provided. No provision for passengers or cargo is made. A wheeled AFV is more commonly used in urban areas where roads are available.

TRACKED VEHICLES

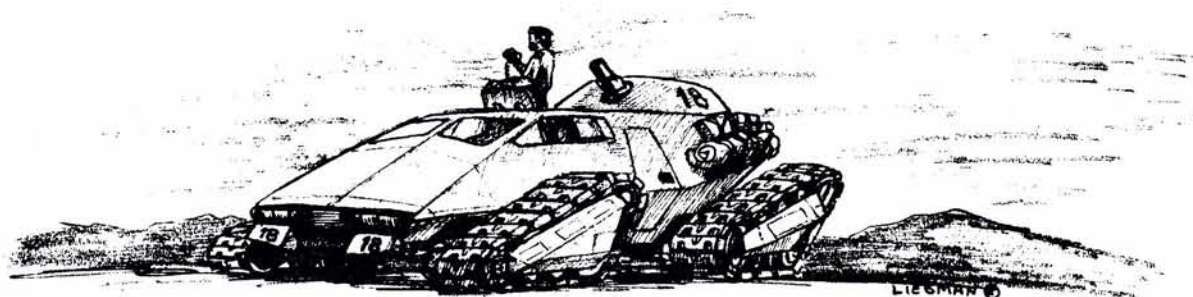
Tracked ground vehicles depend on continuous tracks to ease the friction of travel overland. They are capable of traversing almost any type of terrain, restricted only by chasms, sheer cliffs, and other insurmountable obstacles. Tracked vehicles are generally slower than wheeled vehicles. Tracked vehicles include all terrain vehicles, armored fighting vehicles, and construction equipment.

Tracked vehicle skill is required for the use of any tracked vehicle. When characters use tracked ground vehicles, the referee should note some specific throws which will govern their use. Throw 11+ for mechanical difficulty or failure, allowing DMs for personal expertise, terrain, and perhaps age and condition of the vehicle. Throw 11+ for terrain difficulty or include such items on animal encounter tables for the current world surface. Note that local law level can be used as the throw (law level +) to avoid such things as speed traps or traffic violation arrests.

The following are examples of tracked ground vehicles:

Tracked All Terrain Vehicle (6) Cr30,000, 10 tons. A tracked vehicle intended for world surface exploration. A tracked all terrain vehicle (abbreviated ATV) has a range of 5000 km, cruises on roads at 40 kph, and can achieve a maximum speed of 80 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, maximum speed will be 30 kph or less. (Wheeled ATVs are somewhat faster than tracked versions, but are also less reliable in difficult terrain.) An ATV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack, requiring hydrogen or water for fuel. The ATV is designed to serve admirably on many different worlds under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity. An ATV requires one driver. Passengers can number up to 16; the vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. The vehicle may be lightly armored, and can carry a turret mounting a laser or other local combat weapon.

Tracked Armored Fighting Vehicle (6) Cr70,000, 10 tons. A tracked vehicle reinforced with armor and heavily



armed for combat. The tracked armored fighting vehicle (abbreviated AFV) is very similar to the tracked ATV in performance, range, and fuel requirements. However, the AFV is armored to withstand most forms of attack, and is equipped with a turret mounting a laser or other weapon. A crew of three (one with ATV skill, one with gunnery skill, and one with no skill required) is called for, with little or no interior facilities provided. No provision for passengers or cargo is made. Tracked AFVs are best suited to combat in cross-country or unsettled situations.

Dirtmover (8) Cr40,000, 10 tons. A large, tracked piece of construction equipment intended to shift ground cover or construction materials for the building of bases, shelters, or installations. The vehicle requires one operator, and can operate (much like an ATV) for approximately 5,000 km. Maximum speed for the vehicle is 30 kph; generally it operates at much lower speeds. The dirtmover can shift 100 cubic meters of material per hour.

WATERCRAFT

Watercraft float on the oceans of worlds, and are useful only in bodies of water typical on worlds with hydrographic percentages of 1+. In situations where hydrographic percentages represent non-water oceans, watercraft specifically designed for local conditions may be available.

The watercraft skill category has four divisions for the purpose of skill utilization: small watercraft, hovercraft, submersibles, and large watercraft. Any character with skill in one of the divisions can operate watercraft in another division at -1. For example, a character with small watercraft-2 could operate submersibles, hovercraft, and large watercraft at level-1.

Small watercraft are operable by one person, often considered a driver or operator. Typically, they do not exceed 100 tons. Large watercraft call for more than one person to operate; they generally exceed 100 tons.

The following are some examples of watercraft. The steamship and motor boat are small watercraft, while the destroyer is a large watercraft.

Small Steamship (4) Cr60,000, 100 tons. Vessels of this type vary widely; most are capable of 30 kph for sustained periods. Fuel is some form of basic combustible. The ship can carry a crew of five, ten passengers, and 50 tons of cargo.

Motor Boat (5) Cr60,000, 60 tons. Advanced small craft utilizing hydrofoils to allow high speed performance. The motor boat can cruise at 60 kph, with bursts of speed to 100 kph. The ship's engines depend on local fuel sources, such as hydrocarbons or electric batteries. A crew of three operates the craft, which carries eight passengers and 10 tons of cargo.

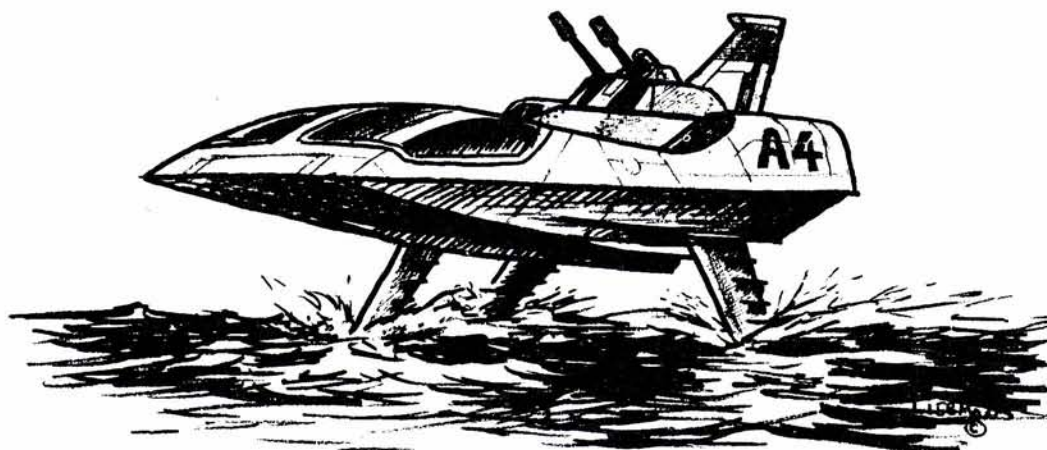
Submersible (6) Cr2,000,000, 500 tons. Underwater vessels intended to avoid surface weather conditions for safety and convenience. On worlds with large water percentages (especially level A) submersibles ply the routes between underwater domed cities. The submersible is capable of 40 kph cruising underwater, and about half that on the surface in good weather. It has unlimited endurance, and depends on local energy sources for refueling or recharging. It has a crew of five and provision for ten passengers and 30 tons of cargo.

Destroyer (9) Cr2,000,000, 800 tons. Advanced large watercraft intended for naval operations including escort and patrol. The ship's engines depend on a fusion power plant; deck-mounted turrets may fire heavy guns or missiles. Operated by a crew of 10, the destroyer can cruise at 40 kph and may reach speeds of 60 kph for short periods. Cargo capacity amounts to 40 tons, mostly used to carry ammunition; provision for passengers and additional crew is provided with 20 staterooms.

Hovercraft (7) Cr200,000, 8 tons. Ground effect vehicles are supported on a cushion of air (at about 1 to 3 meters altitude). Usable only on worlds with an atmosphere of 4 or greater, hovercraft are capable of cruise speeds of 60 kph, with bursts of speed to a maximum of 150 kph. Distance between refuelings is 2000 km. Hovercraft may move over both land and water with equal ease, but encounter difficulty with broken ground, precipices, or storms. A crew of one is sufficient to operate the vehicle; hovercraft can carry up to 15 passengers plus operator. Cargo capacity is approximately 3 tons. No armor or weaponry is generally provided.

INTERPLANETARY VESSELS

Spacecraft capable of moving beyond orbit of a world are described in the chapter on starships. That chapter also includes instructions for the design and construction of such craft.



Vehicles

Game Designers' Workshop

PERSONAL EQUIPMENT

Description	TL	Kg	Cr
Respirator	5	—	100
Filter Mask	3	—	10
Combination	5	—	150
Oxygen Tanks	5	5	500
Refill	5	—	20
Underwater Air Tanks	5	5	800
Refill	4	—	20
Artificial Gill	8	4	4,000
Swimming Equipment	3	1	200
Protective Suit (jack)	5	5	700
Protective Suit (cloth)	5	7	1,400
Vacc Suit	8	10	10,000
Vacc Suit	9	8	10,000
Vacc Suit	10	6	10,000
Vacc Suit	11	4	10,000
Vacc Suit	12	2	10,000
Vacc Suit	13	—	10,000
Cold Weather Clothing	1	2	200
Cold Weather Clothing	10	—	800
Survival Bubble	9	3	600

SENSORY AIDS

Description	TL	Kg	Cr
Binoculars	3	1.	75
Infrared Goggles	6	—	500
Light Intensifier Goggles	7	—	500
Torch	1	.25	1
Electric Torch	5	.5	10
Gas or Oil Lamp	2	.5	10
Refill of Gas or Oil	2	—	2
Cold Light Lantern	6	.25	20
Voice Recorder	6	.5	100
Recording Tape	6	—	1
Recording Crystal	13	—	1
Shotgun Microphone	8	1.5	300
Video Recorder	8	1.2	900
Recording Tape	8	—	2
Recording Crystal	13	—	2
Text Recorder	10	1.	1,200
Recording Tape	10	—	3
Recording Crystal	13	—	3

TOOLS

Description	TL	Kg	Cr
Carpentry Tool Set	2	25	300
Metalwork Tool Set	4	50	1,500
Chain Saw	6	8	500
Mechanical Tool Set	5	20	1,000
Medical Kit	7	10	1,000
Electronic Tool Set	7	5	2,000
Lockpick Set	4	—	10
Disguise Kit	7	5	1,000

Notes: TL is minimum tech level at which the item is available. Kg is kilograms; tons are thousands of kg. Cr is credits; KCr is kilocredits; MCr is megacredits.

COMMUNICATORS

Description	TL	Kg	Cr
Short Range	5	20.	225
Short Range	8	.1	75
Medium Range	5	70.	750
Medium Range	10	.4	250
Medium Range	13	.1	250
Long Range	5	150.	1,500
Long Range	9	1.2	500
Long Range	14	.5	500
Continental Range	5	300.	15,000
Continental Range	9	1.5	5,000
Continental Range	12	5.	5,000

PERSONAL DEVICES

Description	TL	Kg	Cr
Magnetic Compass	3	—	10
Inertial Locator	9	1.5	1,200
Metal Detector	6	1.	300
Radiation Detector	5	1.	250
Bull-Horn	5	.5	120
Hand Calculator	7	.1	10
Hand Computer	11	.5	1,000
Artificial Psi Shield	8	1.	4,000
Handcuffs	2	.3	25
Wrist Watch	4	—	100

VEHICLES

Description	TL	tons	KCr
Primitive Biplane	5	1	20
Fixed Wing Aircraft	6	5	1,000
Helicopter	6	1	100
Air/Raft	8	4	600
GCarrier	8	8	1,000
Speeder	8	6	1,000
Grav Belt	12	10	100
Ground Car	5	2	4
Wheeled ATV	6	10	30
Wheeled AFV	6	10	70
Tracked ATV	6	10	30
Tracked AFV	6	10	70
Small Steamship	4	100	60
Motor Boat	5	60	60
Submersible	6	500	2,000
Destroyer	9	800	2,000
Hovercraft	7	8	200

SMALL CRAFT

Description	TL	tons	MCr
Launch (or Lifeboat)	8	20	13.0
Ship's Boat	8	30	16.0
Slow Boat	8	30	15.0
Pinnace	8	40	20.0
Slow Pinnace	8	40	18.0
Modular Cutter	8	50	28.0
ATV Module	8	30	1.8
Fuel Module	8	30	1.0
Open Module	8	30	2.0
Shuttle	8	95	33.0
Fighter	8	10	18.0

WEAPONRY

Description	TL	Kg	Cr
Club	0	1.	—
Dagger	1	.25	10
Blade	3	.35	50
Foil	3	.5	100
Cutlass	3	1.25	100
Sword	1	1.	150
Broadsword	2	2.5	300
Bayonet	3	.25	10
Spear	0	2.	10
Halberd	2	2.5	75
Pike	1	3.	40
Cudgel	0	1.	10
Body Pistol	7	.25	500
6 rds ammo	7	.05	20
Automatic Pistol	5	.75	200
15 rds ammo	5	.25	10
Revolver	4	.9	150
6 rds ammo	4	.1	5
Carbine	5	3.	200
10 rds ammo	5	.125	10
Rifle	5	4.	200
20 rds ammo	5	.5	20
Auto Rifle	6	5.	1000
20 rds ammo	6	.5	20
Shotgun	4	3.75	150
10 rds ammo	4	.75	10
Submachinegun	5	2.5	500
30 rds ammo	5	.5	20
Laser Carbine	8	5.	2,500
LC Power Pack	8	3.	1,000
Recharge	8	—	200
Laser Rifle	9	6.	3,500
LR Power Pack	9	4.	1,500
Recharge	9	—	300
Telescopic Sights	6	.8	200
Electronic Sights	9	1.5	2,000
Silencer	6	.6	200
Shoulder Stock	5	1.	75
Folding Stock	6	.5	100
Accessories	—	10% of price	

BODY ARMOR

Description	TL	Kg	Cr
Jack	1	1	50
Mesh	7	2	150
Cloth	6	2	250
Reflec	10	1	1,500
Ablat	9	2	75
Combat Armor	11	6	20,000
Battle Dress	13	20	200,000

SHELTERS

Description	TL	Kg	Cr
Tarpaulin	1	2	10
Tent	2	3	200
Pressure Tent	7	25	2,000
Pre-Fab Cabin	6	4tons	10,000
Advance Base	8	6tons	50,000

PSIONIC SKILL SUMMARIES

Level	Name/Description	Time Required	Cost
Telepathy			
1	Shield	constant	0
1	Life detection	60 seconds	1+Range
2	Telempathy	60 seconds	1+Range
4	Read surface thoughts	60 seconds	2+Range
5	Send thoughts	120 seconds	2+Range
9	Probe	600 seconds	8+Range
10	Assault	2 seconds	10+Range

Experience: Throw 8+ per month to increase one level. Initial level is 1.

Clairvoyance

2	Sense	15 seconds	1+Range
3	Direction	constant	0+Range
5	Clairvoyance	15 seconds	2+Range
5	Clairaudience	15 seconds	2+Range
9	Combined	15 seconds	2+Range

Experience: Throw 8+ per month to increase one level. Initial level is 1.

Telekinesis

1	Move 1 gram	60 seconds	1+Range
2	Move 10 grams	60 seconds	2+Range
3	Move 100 grams	60 seconds	3+Range
5	Move 1 kilogram	60 seconds	5+Range
8	Move 10 kilograms	60 seconds	8+Range
10	Move 100 kilograms	60 seconds	10+Range

Experience: Throw 8+ per month to increase one level. Initial level is 1.

Awareness

2	Suspended animation	7 days	3
4	Psionically enhanced strength	60 minutes	1/point
5	Psionically enhanced endurance	60 minutes	1/point
9	Regeneration	60 seconds	1/point

Experience: Throw 10+ per month to increase one level. Initial level is 1.

Teleportation

5	Personal, unclothed	—	0+Range
7	Personal, clothed	—	0+Range
9	Personal, with equipment	—	0+Range

Experience: Throw 12+ per month to increase one level. Initial level is 5.

PSIONIC TALENTS

Telepathy	5+
Clairvoyance	6+
Telekinesis	6+
Awareness	7+
Teleportation	9+
Special	9+

Roll two dice for each talent in succession; they may be rolled in any order of the player's choice. Apply a DM of -1 on the first throw, -2 on the second throw, through -6 on the sixth throw.

PSIONIC RANGES

	Talent				
Range	Telepathy	Clairvoyance	Telekinesis	Teleport	
Close	0	0	0	1	
Short	1	1	1	2	
Medium	2	1	2	3	
Long	3	2	4	3	
V Long	3	2	9	3	
Distant	4	3	—	4	
V Distant	4	3	—	4	
Regional	5	4	—	5	
Continental	5	4	—	5	
Planetary	6	4	—	5	

Penalties for Psionics: If an individual with psionic power and training is discovered by the public or the authorities, throw 2D for possible penalties. Throw 12+ for lobotomy, 10+ for lynching, 8+ for tarring and feathering, 6+ for imprisonment, and 4+ for deportation.

THE PSIONIC INSTITUTE

Throw 11+ for a branch of the Psionic Institute to exist on any world with population 9+; DM +1 for each level of population above 9.

Throw 9+ to locate the Institute after one week of search; DM +1 per level of streetwise and +1 per level of admin skill. Character gives up search after one week if not successful.

The Examination: For Cr5,000, a two week examination can be administered. Throw 10+ for a free exam for the truly indigent.

Psionic Strength Ratings: Throw 2D; DM -1 per four-year term of service after age 18.

Maximum Activity Level: A character may not perform any activity unless his or her psionic strength rating (unenhanced by drugs) is equal to or greater than the required level for that activity.

Available Strength Points: PSR indicates the number of points available for performance of any activity. Psi-drugs may increase these points.

Aging: Untrained characters have their psionic strength rating reduced by -1 every four years. Trained characters are not subject to any reductions in PSR.

Deterioration: No character may have a PSR greater than the sum of strength, dexterity, endurance, and intelligence; if such a situation occurs, then PSR is reduced to that amount.

RANGE DESCRIPTIONS

Close: In physical contact; touching.

Short: at sword or polearm point; approximately 1 to 5 meters.

Medium: At pistol range; from 6 to 50 meters.

Long: At rifle range; from 51 to 250 meters.

Very Long: At extreme range; 251 to 500 meters.

Distant: Beyond normal contact; from 500 to 5000 meters.

Very Distant: Out of sight; from 5 to 50 kilometers.

Regional: 50 to 500 km.

Continental: 500 to 5,000 km.

Planetary: 5,000 to 50,000 km.

Psionics

The powers of the mind are incredible; and some day the study of these powers will enable every individual to use them as an active part of his life. Psionics, however, can be frightening to those without the power, and the active or public use of this power is not well received by the general populace, nor by the government. As a result, only a very few individuals ever discover the psionic power that lies hidden in their minds.

The Psionic Institute: In the face of popular and official disapproval, the secrets of psionic science are held by a dedicated group of talented individuals who operate the Psionic Institute. Accurate information about and quality training in psionics are available only through branches of the Psionic Institute, which is wholly devoted to the study of mental powers. Because of the prejudices which exist, the Institute maintains a low profile, and it is quite difficult to locate its facilities. Any world with a population of 9 or greater may have a branch established on it (throw 11+ for a branch to exist; DM +1 per level of population above 9).

Although a branch may exist, it still must be located. Any character may indicate that he is searching for the local branch of the Institute (throw 9+ to find it or information as to its location; DM +1 per level of streetwise expertise and +1 per level of admin expertise). Such a search takes one week. If the search is unsuccessful, the character becomes convinced that no branch exists on this world, and gives up the search there.

If the local branch is located, a character may inform his comrades of his success. There is some chance (throw 7+ to avoid) that the branch is some distance away and will require a long trip to reach it.

Branches of the Institute perform two functions: they administer the examination for psionic potential, and they provide training in the use of psionic talents. Both services are provided for a fee.

PSIONIC STRENGTH

The Institute's comprehensive examination provides a measure of personal psionic strength. The process takes two weeks time, and costs CR 5000. Some charity is available for truly indigent applicants (referee's discretion as to suitability, then throw 10+ to be given a free examination).

The Examination: Each character has a basic potential defined by a two-dice throw. Age constantly lessens this potential, however, unless training is undertaken to use it. A DM of -1 is applied for each block of 4 years age above 18. These blocks correspond to the aging cycles. For example, a character who takes the examination at age 23 is in his second 4-year block, and has a DM of -2. Throw 2 dice and apply the DM. The result is the character's psionic strength rating. The examination may only be taken once per character.

Psionic Strength Ratings: The personal psionic strength rating may range from zero to 11. Ratings of 12 or more cannot be attained naturally once a character has passed beyond age 18; they may be achieved temporarily through the use of psi-drugs. The maximum possible rating is 15.

Psionic strength ratings indicate two things: the maximum level of activity which may be performed, and the number of strength points at the character's command for the performance of specific tasks.

Maximum Activity Level: Each type of activity within a psionic field is assigned a level. A character may not perform that activity unless his or her personal psionic strength (unenhanced by psionic drugs) is equal to, or greater than, the level of the activity.

Available Strength Points: Each type of activity requires the expenditure of psionic strength points for the activity and for the range at which the activity is performed. A character's psionic strength rating is an index of the points

which he or she may expend. Expended points are regenerated, over time, by rest and recuperation. Psi-drugs may increase the points which are available to the character.

Aging and Deterioration: An untrained character is subject to a gradual, relentless deterioration of his psionic strength rating. When the aging point occurs (every 4 years), his or her rating is reduced by 1. A trained individual is not subject to reductions in power through normal aging.

If, through aging, permanent injury, or any other cause, a character (trained or untrained) has the sum of his first four characteristics (strength, dexterity, constitution, and intelligence) reduced to less than his psionic strength rating, his psionic strength is reduced to that sum. Psi-drug abuse can also reduce psionic strength.

TRAINING

The Institute will train individuals in the use of their latent talents. Training requires 4 months and costs CR100,000. Extremely talented individuals (psionic strength ratings of 9 or greater) may apply for a scholarship if they cannot otherwise afford training. In such cases, the Institute will take 95% of the character's assets, and waive the remainder of the cost. (Referee: the Institute can, of course, read minds, and will not favorably regard fraudulent or devious applications.)

The Six Possible Talents: Although there are a total of six possible areas of psionic activity, no one person will usually be capable of activity in all areas. In training, a character will learn those areas in which he has ability or potential, and those areas in which he has no talent at all.

Roll two dice successively for each of the six talents listed in the talent table. A throw is indicated which must be achieved in order to have ability in that area. A DM must

be applied to each throw: the throws may be made in any order, but there is a DM of -1 on the first throw, -2 on the second throw, -3 on the third throw, and so on. A character who is extremely anxious to acquire teleportation should throw for that talent first.

Effects of Training: The training sessions merely acquaint the character with the possibilities of psionic talents, and impart a rudimentary control over them. As a result, the character can perform any task of level 1. Experience and hard work will allow the character to learn how to use greater levels of power. The effects of time and experience are given in the descriptions of the specific talents.

Training also instructs the characters in the methods of concealing their powers, and in the dangers of allowing common citizens to know of their power. When training is completed, the Institute is incapable of further assisting characters in their psionic development. From that point, all depends on experience and fortune.

It is possible for a character to have a very high psionic strength rating and nonetheless turn out very badly in training, discovering that he has few or no specific abilities. It is also possible to discover that a character has a rudimentary talent in a field, but insufficient level to enable him to perform any activity. For example, teleportation requires a psionic strength rating of 7. A character with a psionic strength of 5 who achieves teleportation as a talent is still unable to teleport because he has an insufficient rating. Psi-drugs will increase his strength, but not his rating.

Psionic training is not available in the services, nor is it available from any source except the Institute.

RANGE

Psionic activity is restricted by the range or distance at which it is performed. A greater number of psionic strength points are required to do psionic tasks at greater ranges.

The range definitions given here apply to psionic activity. It is important to note that the ranges close to very long are identical to the tactical ranges used in personal combat. Psionics have so far proven incapable of inter-planetary ranges.

Range refers to simple straight line distance. Psionic activity, at the ranges given, is effectively instantaneous, and is not affected by intervening matter in most cases (for example, electromechanical psionic shields do interfere with psionics, but planetary masses or walls do not).

TELEPATHY

Telepathy is the ability to contact other minds directly. In rudimentary forms, it allows the communication of feelings and emotions; in advanced forms it allows the transfer of information. There are several levels of telepathy, which depend on the psionic strength and experience of the user.

Life Detection: The most elementary form of telepathy is the ability to detect the presence of other minds. Life detection enables a character to sense the presence of other minds, the number of minds present, the general type of minds (animal, human, etc.) and their approximate location. Life detection is a level 1 ability, and requires 1

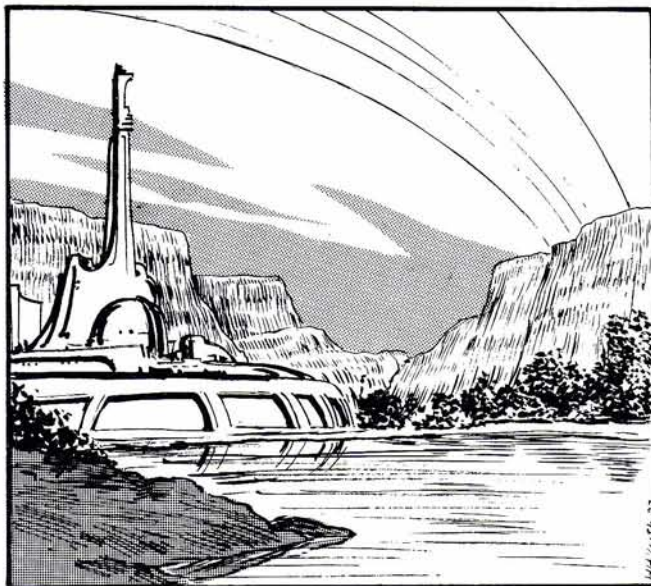
psionic strength point to perform (plus any additional cost due to range, if applicable). Activity may last up to 60 seconds. Life detection is reasonably sophisticated, and can "ignore" bacteria or unimportant animals in the area. It functions best in detecting intelligent minds. Shielded minds are undetectable (see Shields). If an individual whom the telepath knows is "life detected", he or she will be recognized.

Telempathy: The communication of emotions and basic feelings is accomplished by telempathy. This ability serves well in the handling of animals and beasts of burden, but may also be applied as a psychological weapon against humans. Sending of emotions such as love, hate, fear, and so on may influence other beings (although not necessarily in the manner desired). Telempathy also allows the emotions and feelings of others to be read by a character. Telempathy is a level 2 ability, and requires 1 psionic strength point to perform (plus range costs as applicable). Activity may last up to 60 seconds.

Read Surface Thoughts: The most commonly known feature of telepathy is the ability to read the thoughts of other individuals. Only active, current thoughts are read by this ability, with the subject (if himself not a telepath) unaware of the activity. Individuals with telepathic ability cannot be read due to the presence of their natural shields. This ability is of level 4 and requires 2 psionic strength points to perform. Activity may take up to 60 seconds. Range costs must be added if applicable.

Send Thoughts: Complementary to the ability to read surface thoughts is the ability to send thoughts to others. Such individuals need not themselves be telepathic to receive such thoughts. Telepathic individuals are normally open to such transmissions, but may close their shields against transmissions if they become bothersome or threatening. A thought transmission may last up to 120 seconds. Sending thoughts is a level 5 ability, and requires 2 psionic strength points to perform, plus normal costs due to range.

Probe: The application of great psionic strength will enable a telepath to delve deep into the mind of a subject



and to then read his innermost thoughts. Questioning can be used in the procedure to force the subject to divulge specific information. The prober can easily determine deliberate untruths told (thought) by the subject. Probe cannot be used against a shielded mind. Probe is a level 9 ability, and requires 8 strength points to perform. Probing may last up to 10 minutes, which time is usually sufficient to determine the information sought.

Assault: Violence may be dealt by a telepath. Against an unshielded mind, the result is automatic unconsciousness, and possible death. Against a shielded mind, an instant duel ensues. An unshielded mind, when assaulted telepathically, is rendered unconscious immediately, and the character receives wounds equal to 2D+6. When a shielded mind is assaulted, the attacking telepath compares his psionic strength rating to the psionic strength rating of the defender: the difference (attacker minus defender) is the required DM. For the assault to succeed, the attacker must throw 7+. For example, an attacker with a psionic strength rating of 13 assaults a character with a psionic strength rating of 5 (13-5=8); a DM of +8 is allowed in the assault.

Assault is a level 10 ability, and requires 10 strength points to perform. The assault takes less than 2 seconds to occur.

Shield: All telepathically able characters learn how to create a mental shield which protects the mind against unwanted telepathic interference. Such a shield is automatically in force at all times and requires no strength point expenditure to maintain. Artificial psionic shields are clumsy helmet-like devices which function in much the same manner while worn. They weigh 1000 grams, offer little physical protection, and have a base price of CR 4000.

Experience: When the talent of telepathy is initially learned, a telepath is capable only of life detection and shield. As time passes, and the character works at improving his ability (time passing is sufficient for this), he will gradually improve to the full range of his potential. Each month, the character may roll two dice to determine his progress in his telepathic talent. On a throw of 8+, he has increased his capability one level. Such an increase may never

result in an ability higher than his psionic strength rating. For example, a character with a psionic strength rating of 11 is potentially capable of all abilities, including assault, but upon completion of training, he is actually capable only of level 1 activity (life detection and shield). After successfully rolling 8+ 10 times (in 10 or more months, at one roll per month), he will have realized his full potential. A character of psionic strength rating 4 could never exceed level 4 (after 4 or more months, at one roll per month).

In situations where a non-player character is read or influenced by telepathy, it is the responsibility of the referee to determine the person's reactions and thoughts.

CLAIRVOYANCE

Clairvoyance is the general talent which allows a person to sense events at some location displaced from the viewer. There are several levels of clairvoyant ability.

Sense: The basic ability to sense things at some point in the distance. A character will become aware of the most rudimentary characteristics of a location when applying this ability. For example, the referee will give a basic description, without detail: "a room, containing 4 dogs" or "an open plain with a tree, and no animals or men present". The clairvoyant character must state the range at which he is applying his talent, and will generally sense the most interesting or important feature at that range. Sense is a level 2 ability, and requires 1 psionic strength point to perform (plus any range cost).

Clairvoyance: This specific ability allows actual viewing of a situation at some displaced point. It may be performed outright, or to allow elaboration of some situation sensed. The clairvoyant character must state the range at which he is applying his talent. Clairvoyance is a level 5 ability, and requires 2 psionic strength points to perform, in addition to any range costs.

Clairaudience: This ability is identical to clairvoyance, with the exception that it allows hearing instead of seeing.

Combined Clairvoyance and Clairaudience: A character is capable of both seeing and hearing a specific situation by using this ability. It is of level 9, and requires 2 psionic strength points to perform, in addition to any range costs.

Direction: A character may specify the exact location at which he is applying his ability, if it is out of physical sight, by direction, provided he has some knowledge of the location by experience or description. This guidance assists him in performing his activity in the most efficient manner. Direction is a level 3 ability, and requires no basic points to perform (although range costs must be paid).

Clairvoyance abilities allow eavesdropping activities as well as spying and detection-free exploration of situations. While telepathic life detection will determine the presence of living minds in a closed room, for example, sense will determine if a room is occupied or empty. Clairvoyant activity cannot be sensed by others, including by other psionic talented individuals.

Experience: A beginning (newly trained) clairvoyant is considered to be of level 1 regardless of his actual psionic strength rating. Each month, he must throw two dice, and if he achieves 8+, he increases his actual ability one level, until he has reached his actual psionic strength level.



TELEKINESIS

Telekinesis is the talent which allows objects to be manipulated without physically touching them. Telekinetic power is classified by the number of grams weight which the person can manipulate. Any manipulation is treated as if the person were physically handling the item, but physical danger, pain, or other stimuli are not present. Telekinesis includes a limited amount of sensory awareness, sufficient to allow actual intelligent manipulation.

The telekinetic levels table indicates the weight manipulation allowed by level of ability. In addition, the level of ability indicates the cost in psionic strength points to perform such manipulation. Costs due to range must also be paid. The costs envision normal lifting or manipulating; throwing with a strength generally equivalent to physical throwing may be performed at a double psionic strength point cost. Any one telekinetic feat may last for up to 60 seconds. Note that personal weight in most cases will not exceed 100 kilograms; a character of level 10 telekinetic ability can levitate. Gravity differences will not alter the mass which can be manipulated.

Telekinetic power may not be applied at greater than very long range, and then only (as may be seen from the range table), at relatively great cost in psionic strength points.

Experience: Regardless of ultimate potential ability, a character leaves training capable only of level 1 activity. Each month, upon successful achievement of a roll of 8+, ability level increases one level. A character's level of ability may never exceed his psionic strength rating.

AWARENESS

Awareness is the psionic talent which allows control of one's own body. Awareness covers a range of four possible abilities, described below.

Suspended Animation: Personal body activity may be suspended for varying periods of time. A character with awareness may enter a suspended animation state (similar to cold sleep, but without the intrinsic danger of death) by willing himself into it. Such a state continues for 7 days, without need for food or water, and with minimal air needs. Such a person could effectively travel in a cold sleep berth, without actually undergoing cold sleep and its dangers. Suspended animation may be stopped at any time, provided external stimulus is given to awaken the sleeper (such as a friend or a mechanical alarm). This is a level 2 ability, and costs 3 points to perform.

Psionically Enhanced Strength: Psionic strength points may be converted to physical strength points on a temporary basis. The character makes the commitment, reduces his available psionic strength by a specific number of points, and increases his physical strength characteristic by that number. In no case may the number of strength points gained exceed the character's current level of awareness, and physical strength may not be increased beyond 15. Psionically enhanced strength reaches its new level immediately, remains at that peak for 60 minutes, and then declines at the rate of 1 strength point per minute until normal strength level is reached. Psionically enhanced strength is a level 4 ability.



Psionically Enhanced Endurance: Psionic strength points may be converted to physical endurance points on a temporary basis. The character makes the commitment, reduces his available psionic strength points, and increases his endurance characteristic by the same number. In no case may the number of endurance points gained exceed the character's current level of ability, nor may endurance ever be increased to beyond 15. Psionically enhanced endurance reaches its new level immediately, remains at that level for 60 minutes, and then declines at a rate of one point per minute until normal endurance level is reached. Psionically enhanced endurance is a level 5 ability.

Regeneration: Wounds and injuries may be healed rapidly. Wound points may be healed by the application of this ability, exchanging one psionic strength point to regenerate one wound point. Healing occurs immediately (less than one minute). Should one session of healing be insufficient, further healing and regeneration may be applied after expended psionic strength is recovered. Regeneration may also be applied to the growing of new limbs or organs to replace lost ones, or to heal unrecovered old wounds suffered prior to psionic training. Regeneration may not be used to counteract aging. Regeneration is a level 9 ability.

Awareness is not capable of affecting others and may not be used for healing or enhancing other characters.

Experience: A character with awareness leaves training with level 1 ability, and may increase the ability as time passes. Each month throw 2D for 10+; if successful, increase the level of awareness by 1.

TELEPORTATION

Teleportation is a talent which allows effectively instantaneous movement from one point to another point, without regard to intervening matter. Psionic teleportation is limited to the movement of the teleported character's body and (for highly skilled teleports) his or her clothing and weapons.

Teleportation calls for the range cost as indicated on the



table to be paid in order to perform the activity, regardless of the level of the skill or its apparent difficulty.

Personal teleportation without external materials such as clothing or weapons is a level 5 skill.

Personal teleportation, clothed but without any personal load or weapons, is a level 7 skill. A weapon of up to 1000 grams, if worn so as to be part of an individual's clothing (holstered or sheathed), may be carried.

Personal teleportation, clothed and carrying a physical load of weapons and other items, not to exceed the character's strength in kilograms, is a level 9 ability.

Teleportation always involves the movement of one's body to another location. Independent items or other individuals may not be moved. A small animal could conceivably be carried as part of a personal load under the terms of level 9 ability.

Teleportation involves certain requirements in order to be accurate, and to insure obedience of the laws of physics.

Preknowledge of Destination: A character must always have a mental image of his or her destination before teleporting. This mental image is acquired by personally visiting the location first (including just viewing it from a distance), having the mental image implanted in one's mind (by telepathy) by another person who has visited the destination, or by viewing the location through clairvoyance (level 5 clairvoyance, not simply the lesser sense).

Energy and Momentum: Teleportation involves serious restrictions on movement in order to assure the conservation of energy and momentum.

On planetary surfaces, teleportation is restricted to jumps of less than regional distance. Jumps at very distant range involve disorientation for a period of 20 to 120 seconds. Jumps at distant range involve a chance (throw 8+) that the character will stumble or fall upon arrival. The character should demonstrate to the referee the specific effects to be expected, and then how they will be avoided, before attempting jumps at ranges greater than distant.

This restriction results from the law of conservation of momentum: on a rotating planet, two locations will have different rotational speeds and directions. A jump from a

point on the earth's equator to its antipode would result in a total velocity difference between the character and his surroundings of over 3300 kph.

Changes in altitude (actually all movement to locations of differing gravitational potential) will result in potential energy changes, manifesting themselves as changes in body temperature. A jump of 1km straight down will result in a temperature increase of 2.5 degrees Celsius; this is sufficient to cause extreme fever, brain damage, and even death. A jump up will cool the body by the same amount, with equally serious results. To be safe, a jump may not involve an elevation change of more than 400 meters, and multiple jumps should not involve a cumulative elevation change of more than 600 meters in one hour. These problems may be gotten around through the use of technological devices: energy compensators, heat suits, and other means. Characters may feel driven to invent such materials, commission their invention, or seek them out from those who already have them.

Experience: Teleports leave training with level 5 ability; those with a psionic strength rating of less than 5 may not increase their abilities, and cannot teleport. Each month, throw 12+ to increase by one level. Teleport level may not exceed psionic strength rating.

SPECIAL

Although psionic activity generally lends itself to classification, some individuals defy this very classification. Individuals with special talent are capable of some activity which is not described here; this talent is dispensed by the referee after deliberation. The special talent may include abilities not covered by this section, or may be a random assignment of otherwise unreceived abilities. Special talents should be made psychologically dependent on a focus, in the form of some artifact or charm, which must remain in the possession of the character.

RECOVERY

When psionic strength points are expended, the available points for a character are reduced. Such points are naturally recovered by a process of rest and recuperation. Beginning three hours after the last psionic activity, a character regains one psionic strength point per hour until the total equals the normal psionic strength rating. Such recovery is independent of physical activity. Psionic activity is defined as any psionic-related act, including the taking of psi-drugs for any purpose.

PSI-DRUGS

Chemical means are available to enhance psionic strength points on a temporary basis. These drugs are:

Booster: The basic psi-drug, available in small one-dose pills. Booster increases an individual's available psionic strength points by +3 if taken when psionic strength is at full power, or by +2 if psionic strength is at a reduced level. Additional doses of booster have no effect if taken within an hour, and the drug will never boost psionic strength points to a level greater than normal +3. The drug-induced additional psionic strength will wane and disappear at the end of one hour.

Double: A more potent form of the drug, also available in small, one-dose pills. Otherwise identical to booster, double increases psionic power by +6 if taken when psionic strength is at full power, or by +4 if taken when psionic strength is at a reduced level.

Special: The rarest of psi-drugs, special is available only in liquid form and must be taken by injection. Special gradually increases psionic strength points to 15 at the rate of one point per hour. Psionic strength remains at this level (if unused) for four hours and then wanes at the rate of one point per hour until psionic strength reaches zero. Normal recovery then occurs. Special has some dangers, and there is a chance (throw 11+ each time used) that it will permanently reduce psionic strength rating by -1.

Availability: Because the general public attitude towards psionics is negative, psi-drugs are expensive and difficult to obtain. Psi-drugs must nearly always be located and bargained for; they are not found in normal trade channels.

Dealers may exist on any world (throw 8+ to locate a dealer after two days' search; DM of +1 per level of street-wise expertise). Most dealers will have only booster; throw 1D for the number of doses available with a base price of Cr1,000. Double will be available on a throw of 10+; throw 1D-2 for the number of doses available with a base price of Cr4,000. Special will be available on a throw of 12+; throw 1D-4 for the number of doses available with a base price of Cr10,000. Prices may be higher but will generally not be lower.

Pitfalls: The abuse of psi-drugs can lead to the loss of psionic powers and to physical debilitation. If a character takes three doses in three days, there is a chance (throw 9+) that drug overdose will take place within six hours of the last dose.

If overdose occurs, the character becomes seriously ill, lapsing into unconsciousness and taking hits equal to 3D. Upon recovery from the illness, psionic strength rating is reduced (saving throw 10+) permanently by -1.

PSIONICS IN HUMAN SOCIETY

The climate of public opinion about psionics is extremely negative. Individuals will find it unhealthy to admit possession of, or sympathy for, psionic powers. Persons with psionic ability will not admit their powers unless reassured that they are in no danger; this will usually involve self-revelation by a psionic talent.

Some hirelings or citizens may have psionic training or



ability (throw 12 to have any ability; then determine the actual ability). There is an equal chance that the non-character will be an informant or potential informant.

Psionic individuals detected by the public or the authorities are subject to a variety of responses, based on a two dice throw: 12+ for lobotomy, 10+ for lynching, 8+ for tarring and feathering, 6+ for imprisonment, and 4+ for deportation.

To The Referee: If everyone in society had psionics, there would be an everpresent chance of player characters having their minds read, of non-player characters knowing what player characters thought or intended, and of such conveniences as walls, locks, and doors having little practical use. A little thought will show that society would be vastly different if everyone could use the psionic abilities described here however they wished.

It is important to keep psionics under control and out of the hands of most people. It is certainly permissible for players to seek out the Psionics Institute and to try to learn of their own psionic potential. But society as a whole will not allow individuals to openly advertise that they have psionic powers, nor will it allow individuals to use them publicly. These points, if kept in mind, can help to maintain the fabric of the society in which the players are enmeshed.

Basic Traveller Activities

The rules of **Traveller** provide a comprehensive outline for the basic activities confronting any character in the universe. They are necessarily brief and admittedly omit many possible activities. After all, this one volume cannot even attempt to provide rules governing the entire universe; entire libraries are not especially successful in that regard. In the hands of players and a referee, however, the **Traveller** rules are the start of dynamic adventures that can range across the universe.

The first question that arises once the rules have been read is—What do I do now? This chapter contains the answers.

FIRST ACTIVITIES

In **Traveller**, many of the subordinate game systems lend themselves to solitaire or two-person play. Practice with the systems makes the player more proficient, more knowledgeable, and more experienced with the rules that govern adventures. Take the time to run through the various aspects of **Traveller** shown below.

Generate Characters: Use the chapter on characters to generate characters from the six services, complete with individual characteristics and personal skills. The challenge to create an excellent character, and then muster-out before failing a survival or aging throw makes this an interesting and intriguing activity, especially solitaire. Keep records of the characters generated for use later in adventures, as non-player characters and as random person encounters.

Practice Combat: Read through the chapter on personal combat in order to acquaint yourself with the **Traveller** personal combat system. Then pit one pregenerated character against another in a sample battle. Solitaire, or with friends, this procedure can give valuable insights into how combat will work in action, and should show which weapons are useful in what ways. Familiarity with the system can show a player when to stand and fight, and when to run away to fight later.

Examine Experience: Read the chapter on experience and determine what techniques would best help any specific character once he or she begins an adventuring career. Choices between basic skills, weapons skills, and physical characteristic improvements can determine how effective a character will be.

STARSHIP ACTIVITIES

Using starships can be a fascinating activity, and lead to hours of enjoyment.

Build Some Starships: The chapter on starship design and construction describes a complete system for the construction of interstellar capable starships, complete with costs, tonnage restraints, and other considerations. Determine what type of starship is wanted, and then set about designing it. Attention must be paid to fitting all the necessary components into the hull size chosen. The chapter on starship economics should be consulted to determine what sort of profit the ship can show. Maybe a redesign is in order. . .

Practice Space Combat: The chapter on space combat provides a system for resolution of battles between star-

ships. Assign a few starships to each of several players, and fight out a space battle, perhaps to the death. The experience will show what to expect in space combat during **Traveller** adventures.

ADVENTURE ACTIVITIES

Travelling through the universe in search of adventure requires that there be a reasonably well-defined universe for the characters to move around in.

Generate a Typical Subsector: Worlds are grouped into subsectors, as explained in the chapter on worlds. Following the simple system given, generate a subsector of perhaps thirty worlds, and record the results for later adventures. Before putting away this list, use it to strain your imagination: examine the various characteristics for each world, and try to imagine the circumstances which make it the way it is described.

Produce a Single World: Select one world from those in the subsector generated and produce it in greater detail, fleshing it out with maps and animal encounter tables.

Try Trade and Commerce: Assume that a free trader is available and start out in the subsector buying goods for later resale. Take on passengers (high, middle, and low) and cargo, and use free cargo space to carry goods for speculation. Keep track of profits and losses, and don't forget to pay the appropriate ship costs. Continue until the ship goes bankrupt, until someone makes a fortune, or until the ship is paid off.

Check Out Psionics: After generating a character, read the chapter on psionics. Assume that the character has found a Psionic Institute, and has applied for testing and training. Play around with the various psionic abilities described.

Think Up Some Situations: Using whatever inspiration is available (including novels, movies, and interesting events), think up a situation and express it in terms of what **Traveller** characters will encounter and what they must do to deal with it. The sample adventures later in this book may prove helpful in showing the necessary details for such situations.

PLAY TRAVELLER

Any time you have a group of people together, take them through any of the steps above to give them experience in the **Traveller** system. Or referee them as a group in one of the sample adventures in this book. But most of all, have fun!

Referee's Guide to Adventuring

Traveller players are in search of adventure. Some adventure comes from playing the game system, from designing starships, and from exploring worlds generated by the referee. More adventure comes from the scenarios that the referee supervises, and from participating in campaigns. The interaction of the characters involved, the imaginations of all the players, and the details of the game system make the entire game fun for hours on end.

AN ADVENTURE GUIDE

Traveller adventures span the entire range of experience that can be expected in the universe of the far future. The potential for adventure is endless, depending as it does on the situation and on the characters themselves. Nevertheless, each adventure can be classified in a number of different ways. These classification schemes can help any referee to produce his or her own adventures.

Adventures can be classified by their settings, patrons, situations, and catalysts. Each classification is independent, and an adventure can contain one of each.

Settings are places or locations for adventures. Four basic settings for adventures are the ship, the location, the world, and the choreographed novel. The ship covers any vessel, whether marine, interplanetary or interstellar, or other type; ships provide interesting movable settings with abundances of machinery and other equipment. The location indicates any building or natural feature and is usually indoors; it is often presented as a maze or labyrinth to be conquered. The world indicates a setting which is geographic in nature; it may be an entire world, or it may be a mapped area or a smaller portion of a world. The choreographed novel involves a setting already thought out by the referee and presented to the players; it may be any of the above settings, but contains predetermined elements. As such, the referee has already developed characters and settings which bear on the group's activities, and they are guided gently to the proper locations. Properly done, the players never know that the referee has manipulated them to a fore-ordained goal.

Patrons are non-player characters who provide direction and guidance to the players. In many cases, they speak with the voice of the referee in providing their help. Typical patron missions include steal an object, protect an object, find an object, or kill someone. At times, the players themselves will develop their own missions and become for a time, their own patrons. Rumors are especially helpful in this regard.

Type indicates the actual nature of the adventure. An adventure need not be purely of one type, often mixing several types together for more excitement. Types of adventures include the chase/pursuit, the assault/rescue, discovery/exploration, enrichment, the enigma/mystery, and novelty.

The chase/pursuit may involve characters on either side of the situation, and it is possible for events to turn the tables on the players, converting the pursuers to the pursued on a moment's notice.

Assault/rescue usually involves force or violence in overwhelming enemy characters or the forces of nature in order to obtain some goal. Characters may be on either side of the assault/rescue.

Discovery/exploration puts the characters into an unknown situation where they must find information about their environment, either to ensure their own survival, or as part of some interest they have.

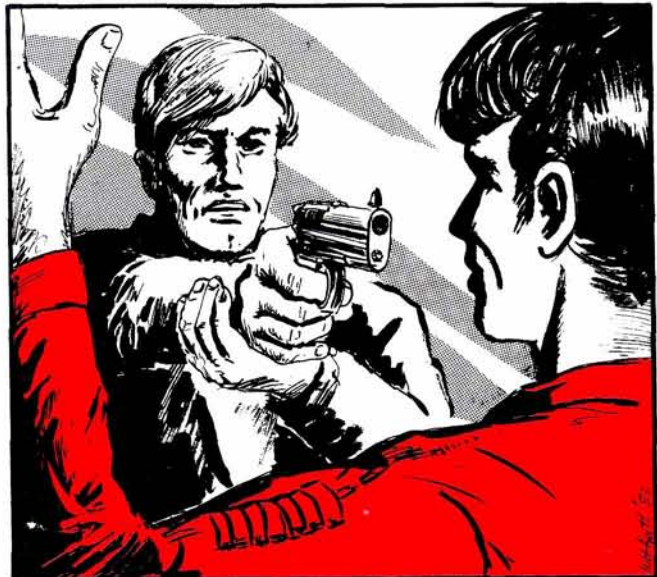
Enrichment makes economic, social, intellectual, or other improvement the primary goal. Such adventures are mercenary (although not necessarily military) in nature.

The enigma/mystery presents a situation for the characters to solve. It may be a simple murder mystery, with clues all around, or it may be a puzzling alien structure about which the group is curious.

Novelty adventures place the characters in interesting situations and allow them to deal with them. A visit to an interstellar casino for a round of gambling could be a novelty to some characters.

Catalysts serve to spark an adventure by providing interest and direction. They include danger (which forces action through threats), opportunity (which forces action through a promise of reward), and puzzles (which prompt action through curiosity).

By assembling these aspects of adventures together, the referee can produce interesting and ever-changing adventures for the players.



TRAVELLER ADVENTURES

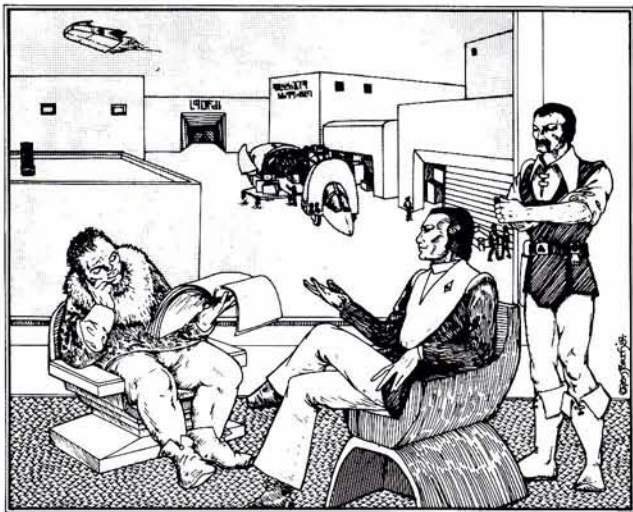
Traveller scenarios come in many sizes and types. In ascending order by size, they are called patron encounters, casual encounters, amber zones, short adventures, adventures, and campaigns. Size also has a direct bearing on the completeness of detail presented and on the complexity of the situation. Each type of scenario has its own special appeal.

Patron Encounters: The smallest and easiest encounter is with a patron. As dictated by the chapter on encounters, it is possible to encounter a patron after a short search. The patron will provide a purpose when hiring the adventurers, and may provide limited funds for the task.

One method of administering a patron encounter is to write a short paragraph for the players to read which briefly details the information which is available to them. Such information includes the location, a description of the patron, the task to be assigned, and the remuneration which will be paid. In addition, several details should be included to establish some opinions in the minds of the characters. To further complicate the situation, a selection of perhaps six possible rationales or outcomes to the situation can be made up (for example: the patron is lying, the patron is crazy, the patron is honest, the patron has been swindled, the patron is deviously trying to achieve something he hasn't mentioned, or the patron is dishonest), and the true outcome picked by the referee from the list, influencing the referee's description of the encounter and the ensuing job.

Rumors encountered in the course of adventures may add to what the players know about their patron and the situation. In some cases, a rumor may be treated as an absent patron, leading the characters off on a search of their own.

Casual Encounters: Somewhat more detailed than the patron encounter is the casual encounter. A patron appears, but is more fully detailed and described. This description often helps the adventurers determine attitudes or opinions of the patron, helping guide the travellers' decisions. The referee will already have established a single purpose, mission, or task for the patron, and will present it to the players. They must decide whether to accept the assignment, and then set about planning a course of action.



Because the causal encounter patron is more clearly defined, the referee may be called upon to role-play the patron (taking care not to take over the action, or to provide too much guidance). Casual encounters are usually more detailed than are patron encounters.

Amber Zones: Amber zone is a travel zone code promulgated by the Travellers' Aid Society to warn off individuals from dangerous worlds. This same name has been assumed for situations which present a danger to characters and to warn them to use caution. An amber zone situation need not take place on an amber zone world. These situations present a problem, task, or predicament to the players and usually include a general outline for the referee to follow. The referee must provide deck plans or maps where called for, and he or she must be prepared to deal with problems in background or reactions when it becomes necessary.

Short Adventures: Complete situations presented to the players for their response are often short adventures. Such short adventures include relatively complete maps or deck plans, plus descriptions, detailed situations, animal encounter tables, or other necessary information, and an overview to explain the situation to the referee. Short adventures are restricted only in their length, and often are confined to a single building, starport, or incident which must be dealt with by the players.

Short adventures focus mainly on a single interesting situation and provide relatively detailed background and data on that specific item.

Adventures: Large, detailed scenarios which deal completely with a single topic are called adventures. Although similar in nature to a short adventure, the larger adventure provides pre-generated non-player characters, crews for ships, details of starships to be encountered, background or library data, and other materials to flesh out the local portion of the universe. All of this embellishment is in addition to the basic situation which is to be dealt with. It serves to make the environment more realistic, more challenging, and more informative. In the course of dealing with the basic idea of the adventure, the players also deal with the background that makes the universe in this situation seem more real.

Adventures are also long enough and complex enough that the players will encounter several situations, often only different aspects of the same basic premise, while they play.

Campaigns: The campaign is a combination of all of the above types of situations into one continuous, intermeshing role-playing life. The background for a campaign remains constant and consistent, while individual adventures, short adventures, amber zones, casual encounters, and patron encounters unfold within it. The fact that the campaign maintains a constant background means that players who learn some fact about the universe in one adventure can often depend on that fact and use it later in another adventure.

Campaigns are almost always dependent on continuing characters. Once a character is generated, he or she continues (at least until death or retirement) to adventure within the same framework of history and background, gradually building up a knowledge of the universe that should help in dealing with adversaries or nature.

TRAVELLER CAMPAIGNS

Traveller campaigns can be a simple string of adventures and encounters set against the background of a pre-generated subsector in which the adventurers fly from world to world, engaging in trade and speculation, seeking and finding patrons, taking on and solving problems, and generally randomly wandering about the universe. With a small bit of effort on the part of the referee, however, a campaign can be structured to be much, much more.

There are four (sometimes five) seeds to a good campaign. Any referee should have them in his (or her) mind when creating any situation which is to continue for more than one session. These seeds are called the basics, the push, the pull, and the gimmick. The optional fifth seed is the enigma.

The Basics: Maybe the thought of the basics is obvious, but it often gets overlooked. The rules for **Traveller** are presented in this book, but there are certain basic facts which the referee must provide. First and foremost is the map and an idea of what lies within the map (and why). Consider any modern map — it may have place names scattered about, but even a grade school education enables a reader to see beyond the names: the center of South America is jungle; some countries are democracies or dictatorships; they may be rich or poor; they may be allies or enemies of their neighbors. The same background is required for a subsector map. The referee needs to give some critical thought to the political organization of the areas shown: is there an empire, a federation, an unsettled frontier? How does the government interact with its citizens: is it benevolent or oppressive, or is its presence even felt? These basics may well be sketched out ideas: rough maps where the holes can be filled in later. But these basics need to be there, or the players will later find themselves wandering into inconsistencies.

At a minimum, the basics should address the subsector map, interstellar government, and local technological levels. As needed, the referee may add more basics to the campaign, including animal encounter tables, local organizations of importance, world and local laws, history, and other foundations. With the basics available, it is possible to set any mundane adventure without further preparation. The only problem is that such adventures will be mundane; there is no real spirit of excitement behind them. The campaign needs more.

The Gimmick: Any campaign needs gimmicks to appeal to the players. Early on, they have no idea what is of importance in a grand sense, and will be self-centered to a certain extent. Gimmicks are designed to appeal to the players, enabling them to search for obviously valuable items while they also learn about their universe. Gimmicks (some say the word is derived from *gimmee*) are things that players want: things they are fascinated with. In **Traveller**, they rank above money or ordinary ships; they must represent some advantage, such as high technology or special talents. The Psionic Institute is an example of a gimmick sought early on by most characters — it meets one definition of a gimmick: an advantage the player has over most people.

Gimmicks are things which cannot be bought — they

must be earned through hard work, clever planning, and good fortune. Keep in mind that gimmicks are things that are acquired early by the players, and which then serve the person (and the group) for the rest of the campaign.

The Pull: The pull is a simple name for a goal that attracts adventurers, much like a magnet attracts iron. It can be as simple as a fabled mineral deposit on a distant world, or as complex as a secret formula that will keep the sun from going nova — to be found within a certain time limit.

Pulls need a lot of thought, and often must be tailored to players in the campaign. When one player is an anthropologist and is interested in primitive cultures, the pull can be the secret of some race on a far-off world, one which allows the player to use his talents to puzzle it out after long expeditions. If a player tends to be a violence-prone soldier, then the pull may be a long-sought bit of training from a military society, available only after he has proven his worth.

Often, a campaign can do with two pulls. One may be major and the other minor, but a multiplicity of pulls allows one to be important while the other lies dormant until needed. Shifting emphasis can make the total campaign realistic; a realistic course for the action is rarely a straightforward path directly to the adventurer's seeming goal.

The Push: The push is (obviously) the opposite of the pull. It is something the players do not especially like, but it keeps cropping up anyway. The push can be relatively simple, like law officers, or relatively complex, like a nefarious group or race intent on conquering the universe.

As with pulls, there can be multiple pushes, some large and some small. Pushes also have a benefit for the referee: they can come into play when the referee wants to push someone. If the group is wasting time in some place and the action should really move on, then over the hill comes a horde of barbarians, the same ones that have been following the group for weeks, and that everyone knows are blood-thirsty killers. "Quick," the group says, "let's move on!"

The Enigma: There is always something that the players will not understand. They may not realize that the emperor who holds ultimate political power also controls (more subtly) the economic power of the major corporations in the region, or that some worlds are being slowly strangled by a major corporation, in order to gain political control. As clues are presented, the group learns more and more about a larger situation, which they can then deal with to their benefit, or to someone else's benefit. This enigma is, on a large scale, the secret of the universe; on a smaller scale, it is still a secret worth knowing.

Early in a campaign, the players may not even know what the enigma is. Later, when presented with several clues, the group may realize that there is a puzzle, but have no idea of its solution. Still later, they may have all of the information (perhaps in the form of raw data still to be refined) and need to find an analyst to decode it. Finally, with the secret at their disposal, they will need to decide how to use this information. Doling out the clues and information slowly can make the campaign an intense, interesting cliffhanger until the very end.

Into the Subsector

The adventures are ready to begin. The following chapters present a wealth of information for the players and the referee, and should provide hours of enjoyment for everyone.

The General Situation: After each player has generated a character, the entire group has assembled through friendship, chance, or some other reason. They find themselves in an establishment just outside the gates of the Regina starport. Regina is capital of the Regina subsector of the Spinward Marches, a frontier sector on the very edge of the Imperium. More information is available in later chapters of this book about Regina, the Spinward Marches, and the Imperium.

Beginning Adventures: Initially, this book's basic rules provide several ideas for things to do. They include:

Find a Psionic Institute: Looking for psionic testing and training is always an interesting pursuit. The actual quest for the Institute is often a side venture as the group travels on other missions.

Trade and Speculation: Engaging in commercial ventures appeals to the basic profit motive that most players have. It enables them to progress in terms they readily understand, and to use their rewards for other activities.

The Scenarios: Presented below and on the following pages are patron encounters, a casual encounter, an amber zone, and two short adventures. As the group travels throughout the Regina subsector, these scenarios should be presented and played. Between these scenarios, the referee can make up additional scenarios and present them to the players. After these situations are completed, the referee can produce others to provide even more adventure.

PATRON ENCOUNTERS

The following patron encounters may be imposed whenever the appropriate patron is rolled on the patron encounter table. If necessary (because of the situation, or because the group is on an appropriate planet), the referee may impose a patron.

In each patron encounter, the referee should provide the players' information to the players, but keep the referee's information secret. After rolling one die, the result will indicate which choice should be implemented. Because of this random result system, each patron encounter can be slightly rephrased and used again with a different response.

The Newlyweds

Patron: Playboy or Noble

Players' Information: The group is contacted by a newly married couple, who decline to give their names, but have

reason to believe that their respective parents are not pleased with their union. They will pay Cr3000 to each member of a group which will escort them safely to a planet beyond their parents' sphere of influence.

Referee's Information: This situation is the classic Romeo and Juliet scenario. The couple is insistent on remaining together and genuinely afraid of their families' reactions.

1. The couple has overestimated their parents' reaction. No attempt is being made to have either one kidnapped or murdered. Naturally, in the course of a normal interstellar voyage, a group of this size obviously travelling in fear of something is bound to attract both official and unofficial attention.
2. Agents of the woman's family will attempt to kidnap her. The number of kidnappers involved should be adjusted by the referee based on the adventurers' weaponry and abilities.
3. Agents of the man's family will attempt to kidnap the man. The number of kidnappers should be adjusted by the referee based on the adventurers' weaponry and abilities.
4. Agents of the man's family will attempt to have the woman killed.
5. Agents of the woman's family will attempt to have the man killed.
6. Both families will simultaneously attempt to kill one of the couple and kidnap the other. Two independent groups should be created by the referee.

The Nervous Merchant

Patron: Merchant

Players' Information: A nervous looking gentleman, who identifies himself as John Smith, a local businessman, approaches the party. Hastening to state that this is the first time that he has ever attempted such a thing, he lays the following job offer before the group.

A competitor, Anselm Beauchamp by name, will be arriving in two days aboard the passenger liner Concordia. If Beauchamp is allowed to complete his task on planet, it



will mean financial ruin for the patron. What he wishes the group to do is to kidnap Beauchamp and hold him for three weeks, during which time the patron will profit greatly from his absence. Beauchamp must not know why he is being detained, or who is responsible. The patron will provide a secluded mountain villa in which Beauchamp may be held, and will pay Cr15,000 to the group upon Beauchamp's safe release.

Referee's Information: The Concordia is a standard R class subsidized merchant. Unless otherwise stated, normal security procedures in effect aboard ship will have to be generated by the referee.

1. All is as represented.
2. Beauchamp arrives as expected aboard the Concordia, but is accompanied by a bodyguard. The referee should generate a suitable character for each role.
3. Beauchamp arrives as expected, but has two bodyguards.
4. Beauchamp is being sought by two assassins hired by another competitor. The referee should work out events according to the individual situation. The patron will not pay if Beauchamp is killed.
5. In addition to Beauchamp, a high official of the Imperial government and his twelve-man escort of Imperial marines are aboard the Concordia.
6. Beauchamp is not aboard the Concordia. The referee should determine why. Perhaps he took a later ship, an earlier ship, or cancelled his trip entirely. The referee must decide other considerations according to individual circumstances.

The Lady in White Robes

Patron: Noble

Players' Information: While resting in a hotel lobby between ships, the players are approached by a young lady in flowing white robes who identifies herself as the daughter of a local noble. Her brother, she says, has been kidnapped by a local criminal organization. He was once a member of that organization, but his conscience got the better of him and he contacted the Imperials, offering to turn Crown's evidence. He is now being held in a mountain villa, while they torture him to determine how much he revealed. The Imperial authorities think he is dead, and will not help.

She offers Cr300,000 for the rescue of her brother and the safe transport of both of them offplanet. She produces a map of the villa, scrawled on a napkin.

At this point, two uniformed police and a third man in civilian clothes approach, taking the girl prisoner. The civilian identifies himself as a doctor at a local mental hospital, explains the girl is a patient there, and apologizes for any inconvenience her wild tales might have caused the party. The girl struggles and screams that they are going to kill her.

Referee's Information: The doctor will quiet the girl with a hypo and the trio will carry her away. A library terminal is handy.

1. The police (really the organization's thugs in disguise) will hail a cab and carry the girl onto it. A check of the library will reveal that the girl and her brother are the only heirs of a local noble (recently killed under suspicious

circumstances). There is no mental hospital of the name given on the planet. The referee must determine the flow of subsequent events.

2-4. The police carry the girl to a waiting unmarked car. Library data will reveal that the girl really has a brother, they are the only heirs of a local noble, and that there really is a mental hospital of that name on the planet. Further investigation will reveal more data, which should be adjusted by the referee to the method of investigation and given out as rumors. The girl is being held there by the organization, who own the hospital. The police are genuine, but know nothing of the situation at the hospital.

5-6. All is as it seems. The girl is the daughter of a local noble, but has no brother. The mental hospital really exists. The police are genuine. The referee should determine the flow of subsequent events.

The Raggedy Old Man

Patron: Peasant

Players' Information: While between flights the group is contacted by a shabbily dressed man who seems to be suffering from a severe allergy. His grandfather, he tells the group, served in the Imperial Army Quartermaster Corps during the border skirmishes of the 1080's. His grandfather's diary, which has only recently come into his hands, indicates that in the closing days of the battle for the Menorb system a quantity of valuable materials was loaded on the wrong ship and transferred to his control. The ship the goods were to have been on was destroyed with all hands, and instead of reporting the incident, the man's grandfather hid the crates. Before he could sell the goods, however, he was mortally wounded in an attack on the headquarters and never regained consciousness. Since the war, the Menorb system has recovered, but certain areas remain off-limits. The planetoid where the goods are concealed is located on the edge of the system, and he feels the odds are good that it has escaped destruction over the years. He does not know for certain what the diverted material was, but he notes that it is referred to in the diary as "the dope". He needs a ship to find the goods and transport them to a planet where they can be sold. He offers a 50/50 split of the proceeds.

Referee's Information: Imperial ships guarding the off-limits area of the Menorb system in which the planetoid is located should be chosen by the referee according to the size and armament of the players' ship. If captured, the players will be assumed to be spies.

1. The diverted consignment is undamaged. It consists of one Imperial mobile field surgery and two tons of pharmaceuticals (primarily medical drug). The surgery weighs one and one-half tons, and cannot be resold legally. The drugs are in civil labels, and should present no real problems in resale. The referee should determine the results of any attempt to sell the goods.

2-3. The cache contains four tons, not two.

4. The consignment has been damaged, and only the field surgery survives intact.

5. The consignment consists of 4 tons of medical drug, and one ton of an illegal (and very valuable) anagathics.

6. A meteor shower occupies the orbit where the diary indicates the planetoid was located.

CASUAL ENCOUNTER

This casual encounter with Shawna provides the potential for a number of situations.

Shawna	9DAA87	Age 38
3 terms	Cr10,000 to 30,000	
Bribery-1, Forgery-2, Streetwise-1, Auto Pistol-1		
Automatic Pistol		

Shawna is a con-artist, a perpetrator of complex, dangerous, and extremely profitable scams and swindles. She is of medium height and build, but otherwise her appearance varies considerably, since she often wears disguises while engaged in an operation. Not even her closest associates are sure what she really looks like, or how old she is. Her name is as big a mystery as her true appearance. Shawna is merely what her close associates call her.

Given time and the proper equipment, she can forge or alter almost any document, but Shawna prefers to work with officially issued documents, such as replacement identity papers.

Shawna, although a criminal, is not completely without principles. She prefers to rob individuals or organizations known for their shady dealings, stringently avoids murder in her schemes, never rips off a close associate, and never leaves her lesser confederates in a situation where they will be in grave danger. She does, however, detest incompe-

tence, and will desert confederates who have gotten themselves into trouble by their own stupidity. Shawna will avenge herself on any who have upset one of her schemes, more persistently and viciously the larger the amount of money she loses.

Shawna is intelligent and quick-thinking, attributes which have served her well in her chosen line of work. Her schemes are tightly-woven and intricate, generally involving several close associates and a horde of lesser perpetrators, none of whom are conversant with the entire plot for security reasons. Her schemes generally involve stock swindles, phony investment schemes, or some form of complex economic manipulation designed to relieve a greedy company or official of several million credits.

Although she may allow an associate to make the initial contact, Shawna prefers to personally interview everyone involved in one of her schemes. She is reluctant to trust anyone but herself with this task, and often this means her larger schemes take months or years to set up. This personal control of her operations is the reason for her unbelievable success in a field where failure is common.

Shawna's crimes are well-known in both underworld and law-enforcement circles, and she has achieved a small degree of renown in popular literature, although most of this is fictional. She circulates false (often contradictory) stories about her past, for reasons she alone knows.

Shawna has amassed a personal fortune of unknown size, which she holds in bank accounts at various locations around the Regina subsector. The Cr10,000 to Cr30,000 indicated above represents what she keeps on hand for advances on salaries or for small debts incurred while a scheme is in progress. She can write bank drafts or checks for amounts up to Cr200,000 with little problem.

Shawna could be encountered almost anywhere, under many possible sets of circumstances.

- The players could be approached by Shawna with an offer to participate in a scheme. This could involve the players in almost any action, from direct involvement in the central part of the scheme to a peripheral diversionary action. If the players appear to be fouling up the scheme, however, Shawna will probably leave them holding the bag.

- One of Shawna's victims, seeking revenge, might hire the players to kill or kidnap her, or to catch her in a swindle of their own which will regain the victim's lost money.

- The players could be in the employ of Shawna's target, and either be approached by Shawna to help in the scheme, or get wind of it themselves (with the option of either joining in or thwarting it).

- The players might stumble onto the con-game by accident, and demand a share of the proceeds or accidentally ruin it, in either case incurring Shawna's wrath.

- The players might be hired by a law enforcement agency or by the security branch of a large corporation to capture Shawna and her associates or to penetrate her operation.

Her greatest weaknesses are pride and an unwillingness to abandon a scheme which has obviously gone sour. This tenacity often leads her to take risks, often involving great personal danger to herself and her confederates in a last ditch effort to revive a dying scam.



AMBER ZONE

This amber zone takes place on the world of Heya, a backwater in the Regina subsector. It could as easily be placed on any world with a reasonable hydrographic percentage. Note that, like most amber zone scenarios, it does not take place on an amber zone coded world.

Players' Information: In the course of seeking gainful employment, the adventurers are contacted by a representative of Sternmetal Horizons, LIC.

The initial survey of Heya (0802-B687745-5) was performed several hundred years ago, and it was deemed devoid of exploitable resources. The planet has been a backwater for many years. Recently, there have been rumors that the initial report was forged, and that extensive and valuable mineral deposits lie hidden in the region known as the Hamantt, a dense jungle area in the center of this world's only continent. Sternmetal sent an undercover survey team into the region several months ago, but their report was never received. Investigation revealed that the team had completed the survey and was returning to the starport via a tourist excursion steamer when the ship was attacked by a band of terrorists.

The wreck of the steamer was never located, and the local government officials are reluctant to speak of it. Apparently, only a cursory investigation was made, as the area was (and still is) infested with guerrillas hostile to the local government.

Sternmetal Horizons, LIC, will pay Cr2,000,000 for the recovery of the lost survey report, or Cr100,000 for the location of the wreck of the ship. They provide the following additional information:

The government of Heya is desperate for tourism (virtually its only means of getting off-planet currency) which has been on the wane since the rebellion in the outback began. They have, therefore, taken steps to conceal the extent of the rebellion and restricted tourists to the relatively safe areas south of the capital.

Locally available transport includes ATVs (renting for Cr300 per week) and local beasts of burden similar to Terran mules (Cr1 per week; each carries 100 kg); the party is legally required to hire one guide for each vehicle or ten beasts, at Cr100 each per day.

Due to the activities of the rebels, import restrictions on weapons are very tight, but Sternmetal has arranged for a quantity of weapons to be smuggled on-planet (one auto rifle and 200 rounds of ammunition for each member of the group).

The party may retain the weapons after the mission is completed, but are responsible for getting them off-planet.

Standard operating procedures for clandestine operations of this nature permit Sternmetal to describe the likely nature of the container in which the report will be found.

Referee's Information: The referee should prepare a rough map of the terrain to be expected. Heya's only continent is roughly hand-shaped (with six fingers) and 10,000 km across at its widest point. The fingers are extremely fertile lowlands. The palm of the hand is highland and the source of many rivers which irrigate the lowlands. The Hamantt is the central jungle from which the rivers flow. Heya's starport (Atarishii Down) is adjacent to

Hilung, the world's capital and major city. Hilung is a seaport at the mouth of a great river flowing out of the Hamantt. Most other cities on the world are small, and farming-oriented. The tourist steamer was sunk in about 50 meters of water in a large lake (about 150 km by 300 km) located some 2400 km away.

Animal encounter tables for prairie, rough, and jungle terrain on Heya are included in the back of this book.

For each week (200 km per week, assuming local beasts of burden; 1600 km in an ATV) spent travelling to or from the lake, or spent in the search for the wreck of the ship, roll 6+ for the party to be attacked by guerrillas. If 10+ is rolled, the party is taken completely by surprise. The referee should adjust size and armament of attacking guerrillas to the size of the party.

After the arrival at the lake, two die rolls should be made to determine if the wreck of the ship can be located and the report recovered.

Throw 12+ for location of the wreck; DM +4 if using sonar or metal detection equipment, +5 if diving equipment is used (these rolls are additive). This roll may be made only once per week.

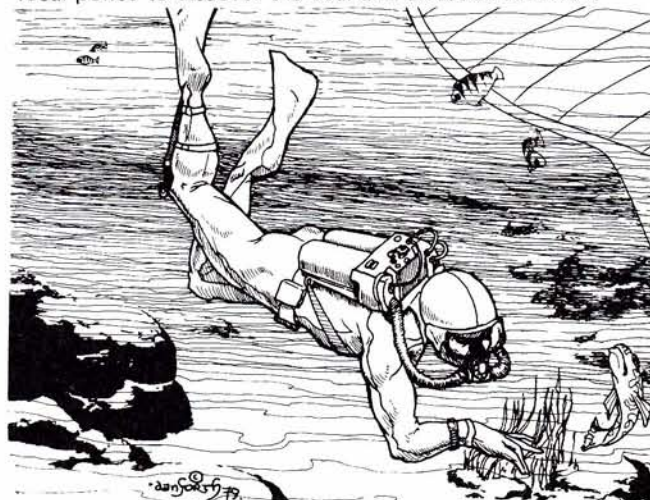
Throw 8+ for recovery of the report; DM -6 if no diving equipment is used. This roll may be made only once per week, after the wreck has been located.

The referee should determine the likelihood of arms and equipment being destroyed by guerrilla attacks, and the possibility of diving equipment being fabricated on the spot.

Note: The party will have to deal with the guide(s) in some fashion (kill them, bribe them, etc.) before venturing north of the city, or the party will be intercepted and arrested by units of the local army. Guides are armed with automatic pistols (one each).

If the party returns to Hilung with the arms they will be arrested unless they have taken measures to conceal them. Some means of explaining the absence of the guide(s) if they have been killed will have to be devised before the locals will allow the party to leave Heya.

The weapons may be sold outside the city for 1D x 10% of their book value. Selling them will take 2D weeks, DM -2 per level of streetwise in the group. Roll 8+ for the local police to discover the deal and arrest all involved.



Shadows

This short adventure, entitled *Shadows*, is a complete adventure for **Traveller**. It concerns a mysterious pyramid structure on the surface of Yorbund, a world in the Regina subsector, and the efforts of a band of travellers to investigate it. It is assumed that this adventure will be administered by a referee who has read through it completely, and who is familiar with both it and the rules of **Traveller** presented in this book. All rules necessary for this short adventure are contained in this book. Other materials which may prove necessary include note paper, graph paper, pencils or pens, and six-sided dice.

For Referees Only: This entire adventure is for the **Traveller** referee. Players should not be allowed to read any part of it unless specifically directed to by the rules or referee. However, once the referee has read these two pages, they may be made available to the players for their reference. Of special interest is the situation and the illustration of the pyramid.

STANDARDS AND ASSUMPTIONS

The following standards and assumptions are used:

Current Date: 190-1105

Dates: Dates herein correspond to the Imperial calendar. The initial date for this situation is 190-1105; 190 is the current day (the 190th day of the year) in the standard 365-day year; 1105 is the current year in the Imperium. Once the adventure begins, time should flow normally.

Location: Yorbund, Regina Subsector

Location: This adventure takes place on the world of Yorbund (0703-C7C6503-7), in the Regina subsector of the Spinward Marches of the Imperium. Yorbund is 11,000 kilometers in diameter, with an insidious corrosive atmosphere, and seas of a similar corrosive fluid covering 60% of its surface. Yorbund has a population of 227,000 persons, with no established government. A generally accepted law level of 3 prohibits energy weapons and autorifles. Local technological level is 7, equivalent to the period 1970 to 1979 (only limited manufacturing of TL 7 materials is possible, due to the low population base). The local starport is classed as type C, and is located near the major population center of the world.

Much of Yorbund is unexplored, with the population concentrated in a few underground complexes. Yorbund's major resource is fungi grown in the caverns; it provides food, fibers, and fuel, and is exported as pharmaceuticals.

Starport: Marion Starport is classified as type C, providing poor quality facilities with no repair or shipbuilding operations. Unrefined fuel is available at Cr100 per ton.

CHARACTERS

Any group of characters may set out on this particular adventure. For best results, however, the group should include certain skills and equipment.

Equipment: The group should have a ship; a type S scout/courier is ideal. If the group does not have a ship, the referee may alter the situation sufficiently to allow running this adventure anyway. For example, the group may be hired onto a free trader in this area, or they may take passage on a tramp liner.

In any case, the characters' should have access to a ship's locker equipped as shown below (it may have more equipment, but should have at least what is shown).

Skills: The group will find the following skills useful in the course of the adventure: electronic, gunnery, mechanical, medical, navigation, and vacc suit. Weapons skills may also prove useful. If necessary, the referee may allow the use of various default skills (such as vacc suit-0 or carbine-0) to fill in gaps in personal skills.

EQUIPMENT

Characters should review their equipment and may wish to purchase more. Any equipment listed in this book may be purchased, subject to the following restrictions:

1. It must be listed in this book.
2. It must not exceed tech level 7 (the local tech level).
3. It must be paid for. This requirement will preclude many items because of cost.

SHIP'S LOCKER

eight **vacc suits**, each with oxygen tanks for eight hours and **short range communicators**

four **carbines**, each with ten loaded magazines

two **automatic pistols**, each with ten loaded magazines

four **cutlasses**, each with a belt scabbard

one **long range communicator**

AVAILABLE EQUIPMENT TABLE

Cable— fine flexible plasteel cable, capable of supporting 250 kilograms. Available in 50 meter coils, each coil weighing 3 kilograms. Up to ten coils are available. Price: Cr100 per coil.

Revolver Shotshells— cartridges for revolvers loaded with shot instead of normal bullets. In use, these shells allow the character to use the group hits by shotguns rule when firing the revolver. Wounding per round is 1D, and such a weapon may not fire at long range. Not available for automatic pistols. Price: six cartridges cost Cr10.

Atmosphere Tester— a solid-state device indicating atmospheric elements present. A red light glows if the atmosphere is not breathable, and a green light glows if the atmosphere is breathable. Three are available, serial numbers 1099-5768-3, 1099-5769-3, and 1099-4792-2. Weight: 1 kilogram. Price: Cr150 each.

SHADOWS

After a call at Marion Starport on Yorbund, consisting of a complete refueling and a visit to the minor attractions of the caverns of Yorbund, the band of adventurers prepared for a routine take-off, bound outsystem for Kinorb. In the last few seconds before lift-off, however, a seismic tremor shook the field, disrupting the count-down. Although lift-off took place on schedule, the possibility remains that the ship sustained damage from the tremor. The adventurers place it in orbit while routine checks are run on all ship's systems for possible malfunction. After three hours, all readings indicate negative problems.

However, the ship's scanners have detected a surface feature of some interest on Yorbund. Located far into unsettled territory, and not appearing on any maps, the feature appeared in a break in the almost perpetual overcast. An aerial view of the feature is shown below. Extensive use of the ship's computer on the image data in memory gradually expands the information available, although additional images are obscured by the overcast and the nature of the atmosphere below. The three-pyramid complex appears to be constructed of stone having a high metal content, with a high probability of voids within the structure, although none of high volume. The feature appears to be old, constructed (rather than natural), and not of human origin. It appears safe for an exploratory expedition.

The landing at Marion Starport provided some basic

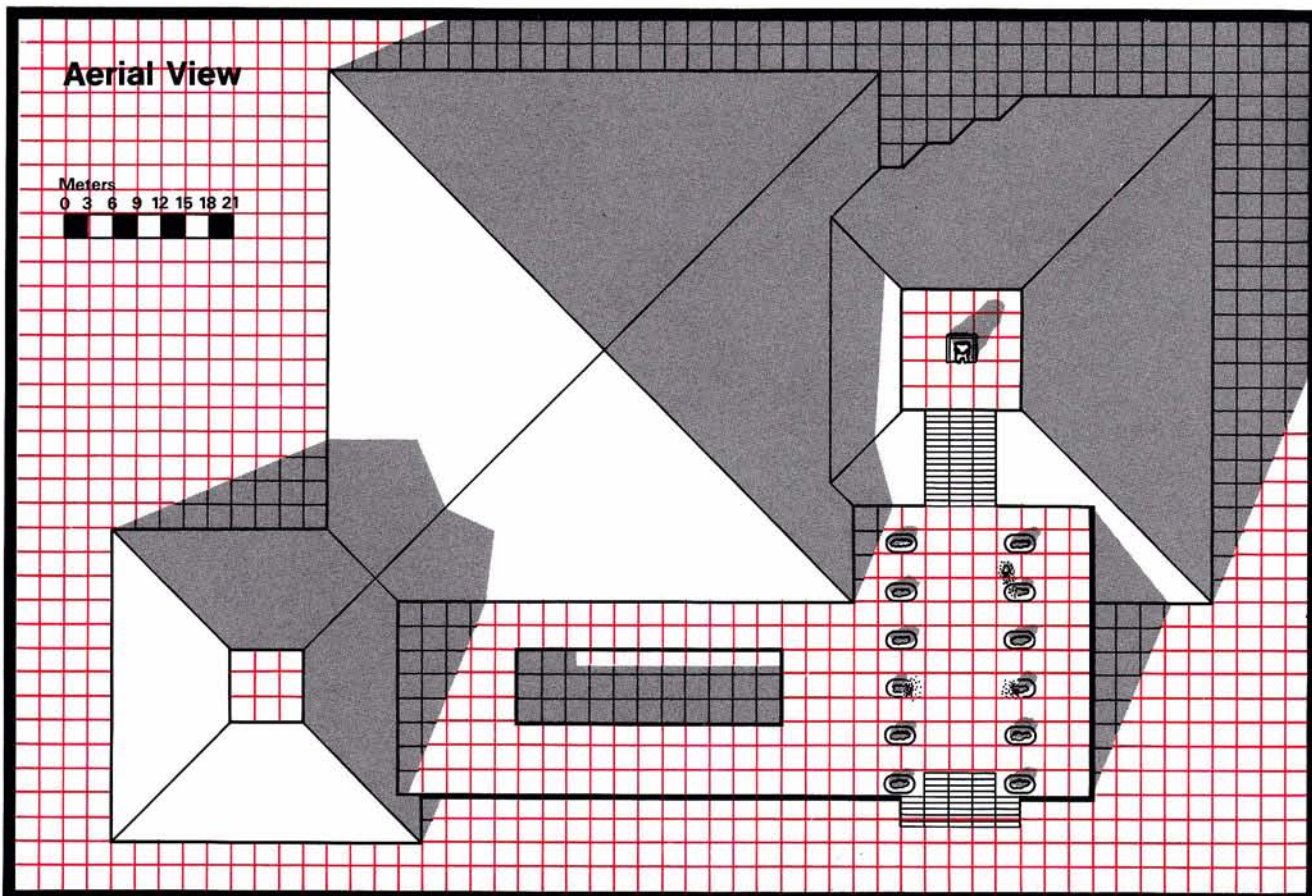
background to the travellers which it would be well to remember.

1. The local atmosphere is insidious, corrosive, and will defeat all personal protective measures within eight hours. The adventurers did not go outside at the starport, accessing facilities through tunnels and portals. Their vacc suits remain in prime condition. Once the suits are exposed to the local atmosphere, they will need reconditioning, at high cost in money (Cr200 each) and time (at least a week).

2. Yorbund is largely unexplored, with few individuals venturing far from the starport and associated caverns. Cloaked in a dense overcast atmosphere, little is known of the surface features of the world. As experience has shown, Yorbund is subject to seismic tremors, generally of low magnitude, but sometimes quite severe; such tremors have been detected from nearly all points on the world's surface. Finally, the planet is known to be subject to considerable volcanism.

3. The ship is fueled, and can maneuver for some time, even land several times if necessary, and still jump out-system. In all probability, questions would be asked at the starport if the ship returned there, and Marion Starport is the only source of fuel insystem.

Deciding to investigate the feature, the ship descends to the world surface, and follows a flight path to land within a kilometer of the complex. In the last few seconds of the approach, an energy blast passes within meters of the ship,



almost disabling it. Instrumentation shows that the beam came from the pyramids. Computer readouts indicate that the ship will probably (80% chance) be shot down if it attempts to take off without the beam being disabled.

INSIDE THE PYRAMIDS

The pyramid complex is obviously an artifact constructed by some race (human or other), by all appearances

at some date in the far past. The adventurers are forced to investigate it in detail.

ENTRY POINTS

The computer view of the complex indicates no obvious points of entry into the pyramids; it does show several possibilities, each of which may be investigated. Each entry below describes the location, indicates throws to use while investigating, and then details the results to be implemented by the referee.

1. The empty shaft on the platform appears to have vents or drainage pipes at its base. The vents are obvious to the observer. The shaft has a depth of nearly 10 meters. The twin openings at the bottom of the shaft will accept a crawling person after the protective metal bars are cut away (with cutting equipment or energy weapon: ten minutes, another ten minutes to remove the stubs in order to avoid cutting into the vacc suit when crawling through). Entrance leads to location 32 on the power plant level.

2. One or more of the statuary figures on the platform (or atop the pyramid) may be movable to reveal an entry. Fifteen minutes of close checking will show that none of the figures in the parallel rows on the platform are movable; throw 9+ for any one character to deduce that some of the broken figures show solid construction, and are not movable. This saves the 15 minutes.

The single figure atop the pyramid is constructed so as to pivot (throw 9+ per five minutes, DM +3 if intel B+, to so note). Strength characteristics totalling 13 are required to move it. It reveals a vertical shaft of great depth. A dim light glows within. The shaft is shown entering the top of diagram 1. Descending this shaft will require cable, and a swinging motion once partway down. The upper level is location 1 on the interior level. The lower level is location 15 on the deep level.

3. Either of the stairways may have some indication of a concealed doorway. Regardless of how long these areas are checked, they will reveal nothing; but no definite proof will appear that there is no entry. The referee should roll (secretly, and disregarding the outcome) for each five minutes spent checking. A doorway may be discovered in the long stairway from the inside (at location 1) and forced open (from inside, by a combined strength characteristic of 13+).

4. As in Terran pyramids, a shaft entrance may be concealed on the face of one or more of the pyramids, probably in shadow. Such a search will prove fruitless.

5. Finally, the flat upper surface of the small pyramid may have some sort of entry. There is none. However, the surface does have a temperature substantially higher than the environment (about 100 degrees C, the boiling point of water).

Brute Force: The idea of brute force may well occur to the adventurers. Personal weapons will have virtually no effect on the surfaces of the complex, although a blast from an energy weapon at the long

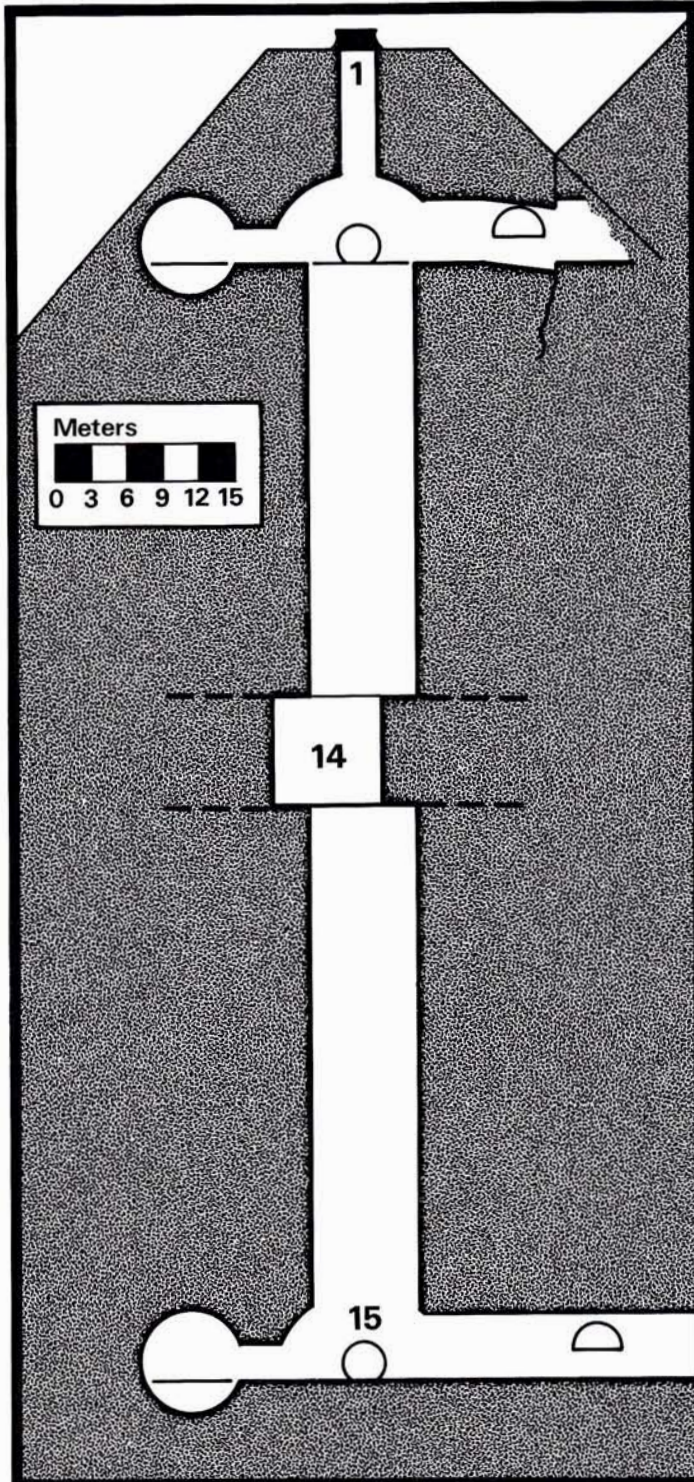


Diagram 1

stairway on the pyramid will reveal the doorway there. If a ship's laser is used, it will cut a 1.5 meter hole for each hit (assumed good accuracy at this range), but will also provoke an energy blast from the nearest face of the large pyramid. Such fire will be returned on a one-for-one basis; throw 8+ for the return fire to hit the ship. The first hit will blow a hole in the hull, causing minor damage (referee determines what portion of the ship is hit, and results; take into account hatches, interior compartmentation, and corrosion effects of the atmosphere), the second will disable the jump drives, and the third will disable the laser. The ship's laser fire will not affect return fire from the pyramid.

INTERIOR FEATURES

The nature of the interior of the complex should come as a distinct surprise to its violators. While the outside of the structure is angular and regular, the interior is curved and rounded.

Large Chambers: Diagram 2 shows a typical large chamber (such as location 11) with a curved ceiling and side access to a corridor. Note the sunken central floor area, drainage, and ceiling vent. The curved line at the top is a lighting fixture which produces a dull glow sufficient for most vision requirements. Locations 1 and 9 are similar in shape and layout, although they both have deep central shafts.

Corridors: Connecting the interior chambers are round corridors as shown in diagram 3. The left-hand (larger) corridor is typical of those connecting major areas, while the smaller corridor is typical of those connecting side chambers, or leading to the power plant level (from location 13). These corridors have a ceiling plate which provides light, and a flat platform at the bottom which provides a pathway for individuals.

This platform appears to be made of iron sheets and is suspended without visible means of support several centimeters above the bottom of the corridor; obviously magnetism is at work. Individuals stepping onto the platform will cause it to settle slightly, but never enough to touch the corridor wall. Liquefied vapor settles to the bottom of the corridors and accumulates below the platforms. Above the corridors, a vent is concealed in the body of the pyramid; below the corridors, a drain pipe is similarly concealed. These connections are visible in large chambers, or at the fracture in the large corridor on the interior level.

Small Chamber: Diagram 4 shows a cross section of a large corridor and two small adjoining chambers, an arrangement typical of the small chambers. Locations 4, 6, 8, and 20 have lower-level platform floors within; locations 2, 3, 5, 7, and 19 have higher-level platforms.

Note the large curved doors, suspended on magnetic fields. For each, throw 9+ for the door to be in the open position. Closed doors may be

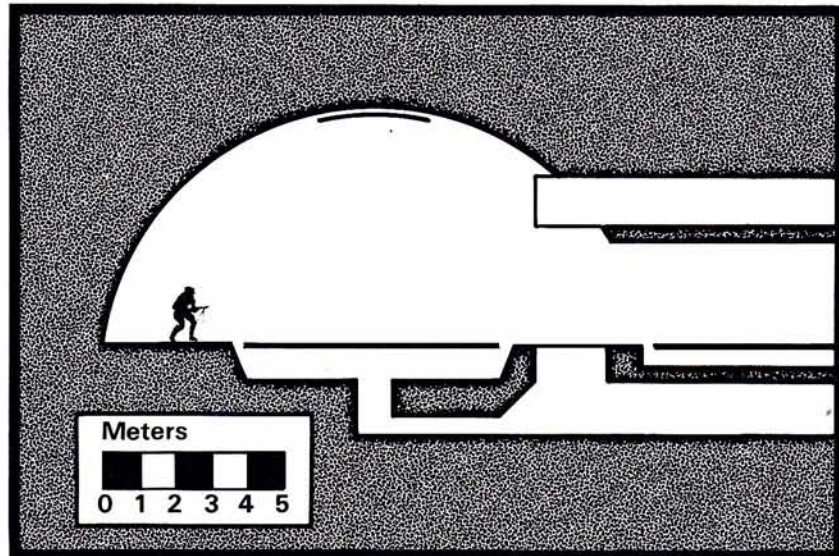


Diagram 2

opened by brute strength, applying 13+ in strength characteristic, and then propping the door open with a bar, tool, or weapon. Open doors will prove very difficult to close. In the event of a seismic tremor, any doors may change position on 7+ unless already propped open.

Note the magnetic platform floors. Such floors are similar to the platforms in the corridors, but span the full width of the small chambers, leaving a very small gap (only a few centimeters) at the edges. In rooms with high level floors, virtually the only way to gain access to the area beneath the floor requires several persons (at least two) at one side, tilting the platform near the entrance corridor; the gap which results will allow a person to slip into the chamber below. If done improperly, the explorer can get trapped (throw 8+ to get trapped; DM +1 for each person counterweighting the platform in excess of 2). If trapped, throw 7+ for the vacc suit to be torn while being retrieved; DM + vacc suit skill.

Environment: The interior of the pyramid complex is interesting for its atmosphere, lighting, and temperature.

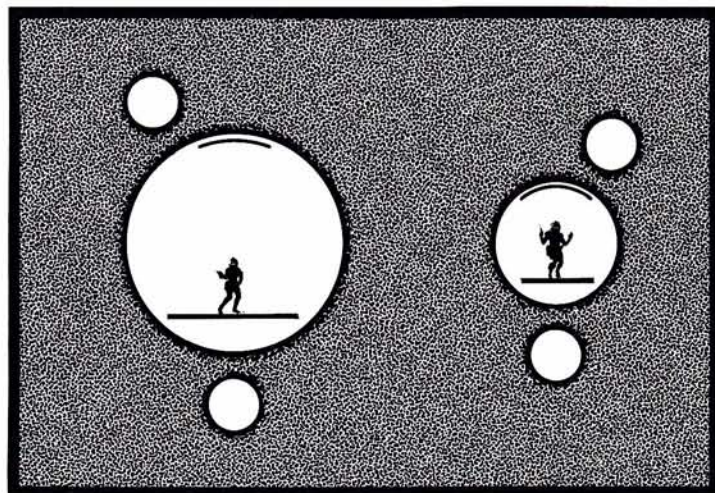


Diagram 3

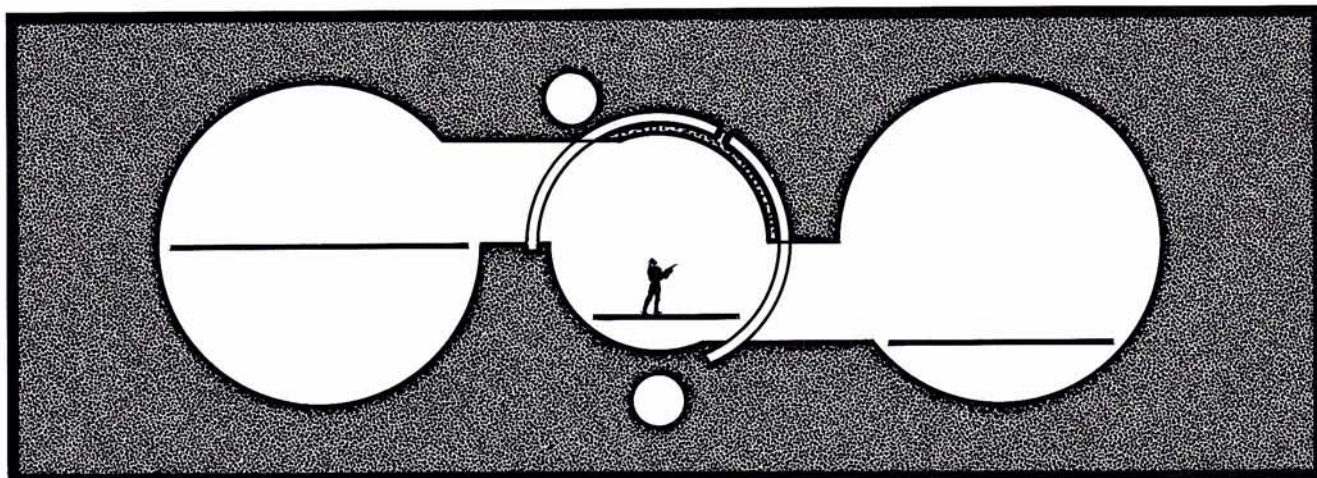


Diagram 4

Atmosphere: In gaseous content, the interior atmosphere is similar to that on the world surface. However, vents and passages constantly keep the atmosphere in circulation. In most cases, the atmosphere is transparent, but close to floors, in depressions, and under the metal corridor platforms, it has condensed to a pinkish vapor, opaque to visible and infrared light. The vapor can also be seen wafting down from ceiling vents, and accumulating to a depth of about ten centimeters. When (and if) analyzed, the atmosphere tester light glows red. The vapor will show a high percentage of halogens in addition to the expected gases.

Lighting: All interior rooms and corridors are lighted with a dull glow from ceiling panels. Close examination will show (to one with electronic skill) that these panels use a form of electroluminescence, drawing electric current (in low wattage) from connections directly in the body of the pyramids. Shooting or breaking a specific panel (they run about 6 meters long) will not extinguish it unless the entire panel is broken. Two areas (locations 20 and 23) on the deep level are in darkness, and close examination will show that the light panels in these areas have been deliberately broken to put them out.

Temperature: Temperature is remarkably constant within the complex, staying at a steady 20 degrees C at chest height. However, this temperature varies with height within the chambers. Near the ceiling, it rises to 25 or even 30 degrees; near the floor, it reaches 10 degrees. This differential contributes to the maintenance of the vapor near the floor. An individual with electronic skill will deduce that this effect is produced by solid-state electromagnetic effects.

The Faults: Two locations show evidence within the interior of the pyramid complex. One, in a horizontal corridor on the interior level, and shown in section in diagram 5, has occurred where the corridor tubes have changed orientation slightly. Someone with navigation skill may notice (throw 9+; DM +2 if intel B+) that the fault corresponds to the juncture between the two adjacent pyramids. The meaning of this fact is not obvious. Visible at the horizontal fault are the upper vent and lower drain pipe, with opaque vapor drifting down from above. A second fault (at location 14 on diagram 1) is located in the vertical

shaft leading down from location 1 to location 15. This fault is not as obvious as the horizontal fault, and will probably not be discovered unless inspected as adventurers move down the shaft. Note that a similar shaft connects locations 9 and 21, but does not have a fault in its length.

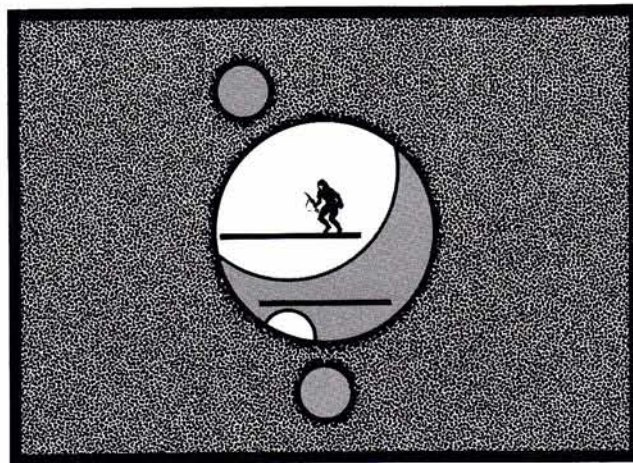


Diagram 5

THE INDIVIDUAL LOCATIONS

Locations on the floor plans range from 1 through 32, each of which denotes an area of potential interest. By investigation of these areas, the adventurers may well discover what should have become by now their defacto goal: to find the controls of the complex's self-defense beam and disable them in order to allow their ship to leave again — all within the eight hours imposed by the local atmosphere's effects on their vacc suits.

Although the band may feel that splitting up will provide the greatest chance at results, this should not be allowed, regardless of how many are in the group. There is safety in numbers, and the band should be so informed; in addition, single groups are more efficiently handled by the referee. Should they insist on splitting up, each band should receive a negative DM of at least -3 on all throws until the bands reunite.

It should be assumed that movement takes little time,

but that careful search can be very time consuming. As a result, apply the following time spans:

A. To move from one location to an adjacent location (except changing levels): two or three minutes.

B. To casually look into a location: two or three minutes.

C. To carefully search a room, sufficient to attempt the throw for success in the search: ten minutes.

Other times are given with specific areas or locations, as necessary.

INTERIOR LEVEL LOCATIONS (1-13)

The following locations are situated on the interior level:

1. Large Chamber. This chamber, on the interior level, is the area entered from the shaft leading down from the statue atop the pyramid. Its center is also a shaft leading down some 95 meters to the deep level. Essentially a simple walkway surrounding the shaft, this chamber is bare of any features, and does not even include fixtures on which to fasten cable or rope.

2. Small Chamber. Throw 9+ for the door to be open. This chamber has a high level floor, and is reached by climbing up a set of raised stair rungs and passing through a doorway onto the metal floor. The upper area is empty, except for some dirt and debris. For careful search, throw 5+: if successful, it will reveal that the dirt and debris is animal droppings, and that the area under the floor is emitting noises as if there are animals down there. If a character manages to get below the floor, a set of animal lairs will become apparent; consult the encounter tables.

3. Small Chamber. Throw 9+ for the door to be open. This chamber has a high level floor, and is reached by climbing up a set of raised stair rungs and passing through a doorway onto a metal floor. The upper area is filled with boxes made of pressed board, all now empty. Careful search (throw 8+; DM +2 if more than 4 persons are searching) reveals that indeed none of the boxes are full; they appear to be natural organic products. Additional search below the floor (requires ten minutes; use the procedure above) reveals that the entire lower area is filled with a pool of vapor.

4. Small Chamber. Throw 9+ for the door to be open. This chamber has a low level floor, all of which is covered with soil; growing in the soil is a profusion of plants. Careful search (throw 6+; DM +1 for a mechanical skill in any degree) requires actually getting down into the soil and moving it with the hands; it will reveal that the area is cultivated rather than wild or natural, although the time between visits for care appear to be on the order of years. The plants are actually fungi, and appear to be nearing a ripe or mature stage.

5. Small Chamber. Throw 9+ for the door to be open. This chamber is similar to location 3, and should be administered like it. However, the area under the floor is only half-filled with vapor.

6. Small Chamber. Throw 9+ for the door to be open. This chamber is similar to location 4, and should be administered like it. However, if a careful search is performed, those involved will be attacked by crawlers automatically. See animal encounters.

7. Small Chamber. Throw 9+ for the door to be open.

This chamber is similar to location 3, and should be administered like it. However, the upper area is empty (obvious to casual search), and the lower area is empty of vapor. Careful search of the lower area (throw 6+; DM +3 for electric torches or cold lights) reveal debris similar to the animal droppings in location 2.

8. Small Chamber. Throw 9+ for the door to be open. This chamber is similar to location 4, but there is virtually no plant life present; what material is present appears to be immature specimens.

9. Large Central Chamber. This chamber is similar to location 1, with the following exceptions. First, there is no shaft leading upward. Second, suspended from the ceiling is a thick knobby cable which descends into the depths of the shaft leading down. This cable appears taut, and is moving slightly, as if connected to a pendulum. A casual search will reveal nothing else. A careful search (throw 9+; DM + number of persons searching) will reveal two things. First, that there is a small kicker at the pendulum connection; it occasionally supplies force to keep the pendulum swinging. Second, a concealed passage (location 13) becomes obvious. An individual with navigation skill will note that the center of this chamber is at the exact center of the large pyramid.

The knobby cable may be a method of descending into the depths of the shaft. It would require a leap to the cable (throw dexterity or less to succeed; DM + vacc suit skill, DM -3 if vacc suit skill is 0 or non-existent), followed by a slow descent (throw strength or less to succeed; DM + vacc suit skill and + endurance, DM -4 if vacc suit skill is zero or non-existent). Perform the descent throw three times (for high, moderate, and low heights). If any throw is unsuccessful, the individual falls, and will suffer 2D hits applied randomly in one lump (perhaps producing unconsciousness), and a further 2D applied in 1D units. In addition, vacc suit integrity may be broken (throw 10+; DM - vacc suit skill), which will result in instant death.

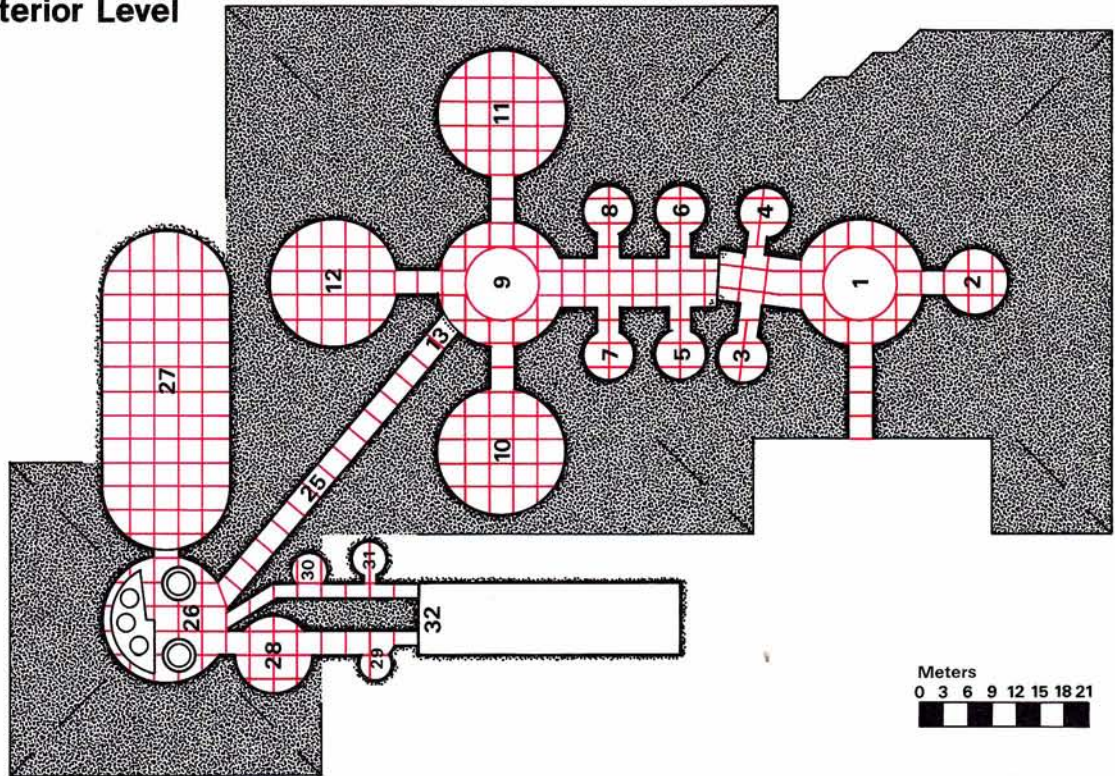
Ascending the cable follows a reverse procedure, but requires an automatic DM of -2 on each throw to cover the added strain of moving up the cable, and then leaping from an unstable position.

Referee's Note: At this point, the band may decide to split up rather than risk all their lives in a descent. The portion which remains behind should stay in chamber 9 in order to avoid the divided band penalties for both groups (as specified on page 134).

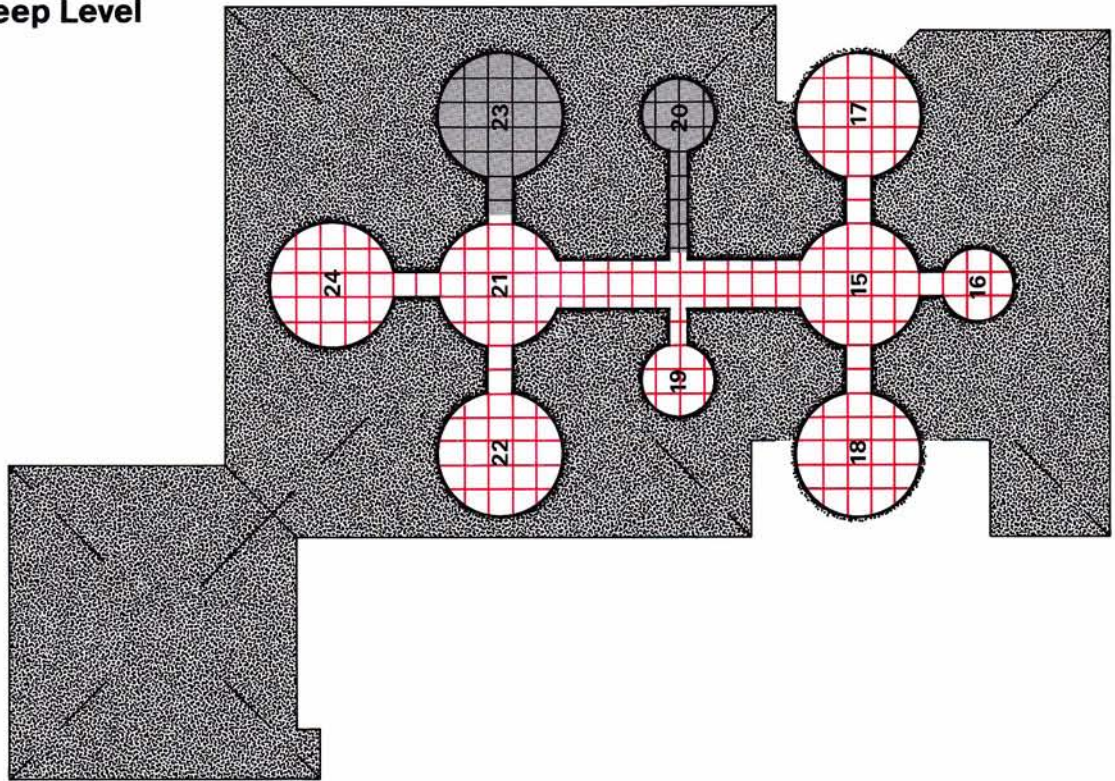
10. Large Chamber. Large chambers have no doors. This large chamber is empty, and has a cross-section as shown in diagram 2. The central sunken area is filled with vapor. Casual search will reveal nothing; careful search (throw 10+ for success; DM +8 if anyone has infrared goggles) will show that the walls of the chamber are painted in a striking mural visible only in infrared. It is possible to detect the mural (but not view its content) on close inspection in visible light.

The mural shows a perception of the area around the pyramid complex, with a low range of mountains in the background. Most apparent, however, is the vast throng of reptilian-looking creatures (about human size) crowding around the complex. They appear intelligent and civilized, perhaps congregated for a religious or political purpose.

Interior Level



Deep Level



Specific details of these beings are not especially obvious to the observer.

11. Large Chamber. Large chambers have no doors. This chamber is similar to location 10, and should be administered like it. However, the mural in this chamber is a depiction of several of the alien creatures engaged in throwing snake-like small animals into the open shaft on the platform outside the complex. Careful search (throw 9+; DM +3 if more than two persons are involved) will show that the fluid in the central depression in the chamber is populated with snakes like those shown on the mural. An individual approaching adjacent to the lip of the depression may provoke the snakes (die roll 2 on the animal encounter table) to attack, even if they have not been discovered by search.

The fluid in the depression will vaporize if subjected to great heat; specifically, if an energy weapon is fired at the pool, its contents will vaporize after three shots. It will immediately begin refilling from the drain pipe, but several skeletons (of crawlers, flyers, and the intelligent aliens) will be visible at the bottom.

12. Large Chamber. Large chambers have no doors. This chamber is similar to location 10, and should be administered like it. However, the mural in this chamber shows a large flock of flying creatures (recognizable as flyers, page 139) soaring and diving around the complex. Flashes of energy are shooting from the faces of the large pyramid, incinerating individual flyers. No other animals or beings are visible in the representation. Careful search (throw 9+; DM +3 if mechanical skill is present) will show that the represented energy blasts can hit any location within sight of the pyramid, but cannot hit locations which are occluded by the smaller pyramids. By deduction, it would appear possible for the ship to take off without danger from the energy beam, if it first moves until occluded by one of the smaller pyramids, and then lifts off so as to remain shadowed by that smaller pyramid.

13. Concealed Passage. This doorway is revealed only by careful search of chamber 9. The panel concealing the doorway will open to combined strength characteristics of 13+. When opened, there is a chance (throw 7+) that a flock of flyers (die roll 7 on the animal encounter table) are concealed behind it, and will erupt in an attack. Each individual in location 9 would be forced to fight (three combat rounds) before retreating to the safety of another chamber or passage. Anyone adjacent to the central shaft in location 9 should throw once (throw twice dexterity or less) to avoid falling into the shaft. If a fall does occur, throw dexterity or less to grab hold of the pendulum cable. See location 9 for falling resolution.

The passage from 13 leads on a slant down to the power plant level.

DEEP LEVEL LOCATIONS (14-24)

The following locations are situated on the deep level map (14 is on diagram 1).

14. Fracture Point in the shaft connecting location 1 and location 15. This lip on the shaft is a result of seismic activity. An individual stopping here will find several small snake skeletons. Throw twice dexterity or less to avoid slipping and falling; DM + vacc suit skill. Careful search

(throw 10+) will show a single gold coin engraved with a symbol of a flame.

15. Large Central Chamber. The floor of the chamber is flat, with no central depression. It is littered with snake skeletons. Large quantities of vapor are wafting from location 17, and cascades of vapor are drifting down from above. Careful search (throw 10+; DM + medical skill) will show that many of the skeletons are reasonably recent, but that the carcasses decay or degrade rapidly in the corrosive atmosphere. In addition, the skeletons are concentrated toward locations 16 and 18; very few are near 17.

16. Small Chamber. Throw 9+ for the door to be open. This chamber is identical to location 2, and should be administered like it.

17. Large Chamber. Large chambers have no doors. The entrance way to this chamber is highly charged; any individual moving through it and touching any surface will set off an electric charge which will inflict 4D hits on him or her. This effect can be avoided by leaping the distance (3 meters; throw strength or less), or by crawling through the vent pipe overhead.

The interior of this chamber is quite cold; much of it is filled with vapor, obscuring vision. The central depression is filled with frozen gas, forming a hard surface. However, more than three persons on the surface will cause it to break, dropping all into the cold fluid beneath. Throw dexterity or less to escape without falling in; throw dexterity or less (DM - vacc suit skill) to avoid 1D hits from the fall.

Careful search of this chamber should be promoted by the fact that the walls have a mural (in visible light) of the exterior landscape of the complex. However, even careful search will reveal nothing else.

18. Large Chamber. Large chambers have no doors. This chamber is completely empty, even to the point of the central depression being empty and dry, and the walls being completely featureless. Careful search will reveal nothing.

19. Small Chamber. Throw 9+ for the door to be open. This small chamber is empty. Careful search will reveal nothing.

20. Small Chamber. Throw 9+ for the door to be open. This chamber is unusual in that it is accessed by a long dark small corridor. The chamber itself has a caved-in ceiling; shards of ceiling material have dropped down, and soil or stone has formed a pile on the floor. Careful search (throw 10+; DM +1 for each electric torch or cold light involved) will reveal the skeleton of one of the aliens, with only rags left from his clothes, and a small fiber pouch in the heap of soil; its contents include a set of 37 gold coins (a 38th coin is at location 14), and a knife of obviously alien manufacture. Any individual with education 9+ will see that the ceiling will probably cave in completely with the next seismic tremor. Throw 6+ on each succeeding tremor until it does cave in.

21. Large Central Chamber. Suspended in the center of this chamber is a large (one meter diameter) pendulum weight at the end of a knobby cable. Inscribed on the floor of the chamber is a complicated pattern which the pendulum weight follows. Careful search (throw 7+; DM + electronic skill) will show that the pattern is inscribed on movable panels which can be displaced. Beneath the panels

are a series of eight pie-shaped compartments. Numbers 1, 2, 4, 5, and 7 are empty. Number 3 contains a set of twelve grippies: small clamp-tools of strange form and design. Intelligence of B+ will see that they can be used to create foot- and hand-holds on the knobby cable; climbing up with them will avoid the negative DMs on the throws given in location 9. Number 6 is connected to the drain pipes, and contains a flock of crawlers which will attack when exposed. Number 8 contains a flat metal fragment; intelligence of 9+ will deduce that it is a key which will open or close any doors to chambers.

22. Large Chamber. Large chambers have no doors. This chamber is obviously a control room when the adventurers enter it. The walls of the chamber are covered with a large array of bar dials; each begins at floor level and ascends to the center of the ceiling. Changes in color along the length indicate intensity or value. Careful search (throw 9+; DM +1 per person with education above 9) will show that the instruments and controls are divided into three basic groups which can be numbered from 1 to 100 (arbitrarily and for convenience).

Group One (numbered 1 to 33) consists of instruments with fluctuating readings, probably power plant related.

Group Two (numbered 34 to 66) exhibits constant readings, with most showing some low degree of value, and numbers 53 and 56 reading (anomalously) at zero. Add 33 to the location number to determine which gauge/control refers to which lighting fixture. Numbers 65 and 66 refer to corridor lighting.

Group Three (numbered 67 to 100) consists of instruments which are reading very low values, except for 99, which reads at a very high intensity. Gauge 99 reflects power consumption for the detectors which govern the energy beam.

Experimentation may be called for by the adventurers. Below each gauge is a set of three depressions. The top one will turn on a device or circuit; the bottom one will turn off a device or circuit. However, as a safety device, neither will work unless a finger is also inserted into the central depression simultaneously. Assume that this trick will not be

chanced upon until at least a half hour of careful search has passed (throw 11+ to succeed; DM +1 per ten minutes total time spent searching).

If all power plant controls are turned to zero, all power (lighting, power plant, defenses) will go to zero, and nothing can be restarted. If control 69 is activated, a subsonic signal will panic all animals within the complex. Control 74 will turn off the pendulum kicker. Control 83 will turn off the defenses of location 17. Controls 69 and 84 come on automatically approximately two minutes before a seismic tremor occurs.

23. Large Chamber. Large chambers do not have doors. This location is quite similar to location 22, but the interior lights do not work, and all of the controls and gauges read zero. An atmosphere tester with a serial number in the 4000 range will emit a beep, and the green and amber lights will come on, although the air remains unbreathable in this chamber.

24. Large Chamber. Large chambers do not have doors, and this chamber has no central depression; instead, its center has a raised dais of stone with the appearance of having been rubbed smooth from long use.

POWER PLANT LEVEL LOCATIONS (25-32)

The following locations are on the interior level map:

25. Passage. Entered from location 13, this long sloping corridor leads downward toward the interior of the small adjacent pyramid. The floor is littered with dust, dirt, and animal droppings.

26. Power Plant Chamber. Large pieces of machinery occupy most of this chamber. The complexity of this equipment makes it difficult and dangerous to disable this power plant. Should it be attempted, the individual(s) involved in the effort must select a seemingly important looking item, and cut or destroy it. Throw 12+ (DM + electronic or mechanical skill) to succeed. If not successful by the second try (ten minutes per try), the frequency of seismic tremors will increase.

27. Fuel Chamber. This large area is filled with vapor to a depth of perhaps a meter. Careful search (throw 9+) will show feed lines leading from the tank to location 26. Cutting these lines, however, will not affect the power plant.

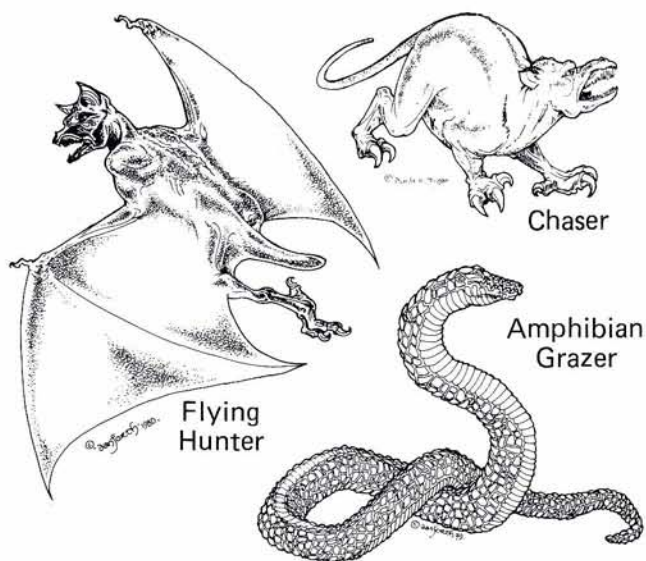
28. Vent Chamber. This unused chamber apparently serves for overflow of power plant exhausts, although this is not currently happening. An individual with intelligence B+ will see that this chamber is utilized only if the power plant is in overload status.

29. Surge Chamber. This small chamber is empty, and appears to be part of the power plant vent system.

30. Surge Chamber. This small chamber is similar to location 29. At the back of the chamber is a vertical shaft to which are attached several vanes or blades near the floor. The vanes occasionally turn in response to air currents.

31. Surge Chamber. This small chamber is similar to location 29.

32. Access Points. Two barred entry points are situated at the bottom of the shaft which pierces the platform outside the pyramid complex. The bars can be removed with a laser weapon or with a cutting torch.



ANIMAL ENCOUNTERS

The interior of the pyramid complex is infested with a large number of animals, all of which have lived and bred within its walls for hundreds of years. They inhabit the airshafts, the drainage vents, the small spaces beneath the magnetic flooring, and other likely areas such as the pools in large chambers. Three basic types of animals are present: flying hunters, chasers, and amphibian grazers. All are rather small (none larger than 12 kilograms) and not especially smart. However, all run in packs, and their numbers can endanger adventurers if they do attack.

ENCOUNTERS

Each time the adventuring band enters a new area, the referee should throw randomly to determine if they have encountered a group of animals. Thus, there is a continuing chance that the characters will come upon animals which will obstruct them in their searches. Throw 8+ for an animal encounter to occur; DM +2 if the pyramid's interior lights are out locally when the throw is made. Make the throw whenever the band moves from one location to another, including when moving just into a corridor. If a band is split, throw separately for each group whenever one of them enters a new area. If an encounter occurs, consult the animal encounter table below.

Surprise: Assume the adventurers have surprise (they surely will be alert to begin with) for the first encounter on this table. Thereafter, roll for surprise using the instructions from the chapter on personal combat. Assume that animals with surprise will attack.

Priority: Specific animal encounters occur in locations 11 and 13, and override use of the animal encounter table.

THE ANIMALS

The three animal types encountered appear to be distinct (though related) species; upon examination of specimens (a character must examine at least one specimen of each type during the adventure, and throw education minus 5 or less at the end of the adventure) they are discovered to be developmental stages in the life of a single animal. The amphibian grazer form hatches from eggs laid in the pools of fluid. The juveniles spend most of their time swimming, but venture out at intervals to feed upon the

plant and fungal material growing in the small chambers. After an unknown period of growth (from the 3cm hatching length to the full size of 75 to 100 cm) the juvenile locates a protected place in which to enter a period of suspended animation, during which it metamorphoses into one of the two adult forms, either the four-legged male or the larger winged female. At irregular intervals throughout the year, the two sexes return to the pools from which they hatched, where they produce large quantities of eggs. The adults are carnivorous, and feed on the juvenile form.

The young are covered with a thick scaly skin which serves to protect them from the ravages of the insidious atmosphere. The juvenile, unlike the adult life forms, is toothless, but is equipped with a number of serrated structures along the edges of the mouth to aid in biting off sections of the fibrous plant material upon which the juveniles feed.

The male reaches a maximum size of about 40 cm, weighing from 3 to 6 kg. Like the juveniles, the males are covered with scales, but in mature forms, these are finer and covered with a thin, tough outer layer of skin.

Females are usually about 60 cm in length, with a wingspan of 100 to 120 cm. They typically weigh from 6 to 12 kg. The wings are formed from thin outer skin stretched over a framework of thin bones, in a manner similar to the Macropan screamer-in-the-darkness or the Terran bat. This form, like the male, feeds on the juvenile, making this organism the only known case of an animal feeding solely off its own young.

SEISMIC TREMORS

Throw two dice for the strength of a tremor: any individual with a dexterity less than the throw is shaken to the floor or ground by the force of the quake. Throw endurance or less to avoid 1D bruises from the fall; DM + vacc suit skill and brawling skill. Throw 11+ to lose vacc suit integrity; DM - vacc suit skill.

Frequency: Quakes occur on the encounter table. Before such a quake occurs, the predictors (location 21) will activate. Tampering with the power plant (location 26) will increase the frequency of the tremors to one per ten minutes, with each becoming stronger (DM +1 to the throw for each new quake strength).

ANIMAL ENCOUNTER TABLE

PYRAMID COMPLEX INTERIOR

Die	Qty	Animal Type	Weight	Hits	Armor	Wounds & Weapons	Reactions
0	12	Amphibian Grazers	1kg	2/ 0	none	teeth-1	F8 A5 S2
1	8	Amphibian Grazers	3kg	4/ 1	jack	teeth-1	F7 A5 S2
2	24	Amphibian Grazers	3kg	6/ 0	jack	teeth+1	F6 A5 S2
3		Seismic Tremor— The complex begins to shake. Any open door will change its condition on a throw of 7+.					
4	4	Chasers	3kg	2/ 5	jack	claws	A8 F6 S3
5	12	Chasers	6kg	5/ 3	mesh	claws	A7 F9 S3
6	4	Flying Hunters	6kg	4/ 4	jack	as blade	A4 F9 S4
7	8	Flying Hunters	12kg	6/ 0	jack	as blade	A5 F8 S4
8	4	Flying Hunters	12kg	9/ 0	jack	as blade	A5 F5 S4

Reactions: *An* is the throw on which animal will attack. *F_n* is the throw on which animal will flee. *Sn* is animal speed. Throw *An* and *F_n* in the order shown.

DMs: Various DMs are applied to this table depending on location within the pyramid complex: vertical shaft, +4; large central chamber, +2; large corridor, even; large chamber, -3; small chamber, -4; small corridor, -3; power plant area, even.

REFEREE'S NOTES

This structure is deliberately presented as a puzzle which must be investigated and understood by the player characters. The referee, however, should know more about the background and details of the pyramid; as the players investigate, they may be able to deduce some of the information presented here. If they appear close, then the referee can reveal certain bits of information.

The pyramid structure on Yorbund was constructed perhaps 50,000 years ago by a minor alien race originating far to coreward. Voluntary exiles from their own civilization (coming this far in sublight speed ships equipped with low berths), they selected this world as the site of their noble experiment in esthetic simplistics. The group seeded this region of Yorbund with their food animals and settled into a simple life of contemplation in natural surroundings. The world, to them, is a paradise without need for labor or effort. The only reminder of their extraplanetary origins is the pyramid structure, which they created as a central esthetic rallying point. The aliens congregated here at regular intervals for rituals and group interaction.

The Alien Creatures: The aliens themselves appear vaguely reptilian, derived from quadrupedal carnivore stock; now standing upright, they retain their thick tails for balance, which incidentally frees a three-fingered hand with twin opposable thumbs for such tasks as grasping.

The insidious atmosphere in which these creatures exist has greatly influenced their lives, customs, and habitat. Living things within this environment are engaged in a constant struggle against its corrosive effects; many different mechanisms have evolved in various life forms, such as impervious slime coatings, constantly replaced outer skins, or surface enzyme reactions. When any local creature dies, the animal immediately becomes prey to the local atmosphere, and dissolves into greasy smoke in a matter of minutes. As a consequence, food must be eaten live, on the spot. Naturally enough, meals have never become a social function.

Within the pyramid, a series of breeding chambers (locations 2, 4, 6, and 8) serve to constantly produce small animals which then roam free within the structure, serving as food to the aliens when they feel the need. A hungry alien simply grabs one (from under the platform or from the air) and eats it, selecting the particular taste he prefers by animal type and size. With food animals roaming free, safety devices are installed on all controls which prevent an animal from accidentally triggering them. Location 16 has an electrical barrier which prevents access to the room by non-flying animals. Controls in the control rooms (locations 22 and 23) have complex three-holed operating switches which include an integral safety aspect.

Meals are not social functions, but the need for social interaction must still be filled. In the evolutionary development of these aliens, they found sunning themselves on warm rocks to be a suitable situation for discourse and social interaction. For the aliens who operated the pyramids, location 24 was a social center; the aliens sunned themselves on the raised stone dais created for that purpose.

The Energy Beam: The alien crew of this structure was charged with the operation and maintenance of the pyra-

mid as a central symbol for the population which lived outside. The aliens outside lead a simple life in the wilds, eating the many food animals which abound in the local terrain, interacting with others, and pursuing their own philosophical views of esthetic simplistics. The pyramid complex is a central esthetic symbol; the crew is charged with insuring that it remain esthetic. The function of the energy beam (shown in the mural at location 12) is to keep flying creatures away from its surface; their excrement left while they perch on it would detract from its appearance.

At one time, an elevator platform operated in the vertical shaft leading from 1 to 15 (below the statue atop the pyramid). Seismic activity on Yorbund has resulted in a shifting of some structural walls; the fracture at location 14 has made the elevator inoperable. Safety interlocks have since made the elevator almost undetectable, and adventurers will probably not discover it.

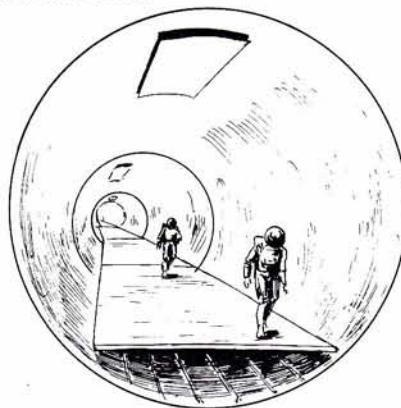
The various skeletons scattered about the interior of the structure show the ongoing interior ecology, as animals die, or are eaten, and their components are dissolved by the air. Skeletons are also destroyed by the atmosphere, but at a slower rate than flesh.

Seismic Activity: The aliens have a great deal of interest in seismic activity, which is relatively frequent here. Predictors are installed in the control rooms (locations 22 and 23), and the pendulum which swings in location 21 is responsive to seismic activity.

The Situation Today: This colony failed many years ago. The aliens outside have died off and the food animals seeded outside have dispersed; the area has proven unable to support the numbers of aliens expected. All that remains today is the pyramid complex and the animals within, supported through the years by the power plant which continues to operate.

These food animals, originally docile, have regressed from their meek roles to wilder, more aggressive types, and as such they now pose some danger to the adventurers.

The area outside the structure may present additional challenges or interests to the adventurers. Some members of the original colony may still survive, although in what form is not certain. Some may retain their philosophical civilization, or they may have regressed to savagery. The original colony ship is almost certainly disintegrated by the local atmosphere by now. And any outside investigation would have to take into account the effects of insidious atmosphere on vacuum suits.



This short adventure, entitled *Exit Visa*, is a complete adventure for **Traveller**. It concerns the exploits of the crew of a free trader on the world Alell. It is assumed that this adventure will be administered by a referee who has read through it completely, and who is familiar with it and with the rules of **Traveller**. All rules necessary for this short adventure are contained in this book. Other materials which may prove necessary include note paper, graph paper, pencils or pens, and six-sided dice.

For Referees Only: This entire adventure is for the reference of the **Traveller** referee. Players should not be allowed to read any part of it until they have finished the adventure.

STANDARDS AND ASSUMPTIONS

The following standards and assumptions are used in the text of this adventure.

Current Date: 300-1105

Dates: All dates in this adventure correspond to the Imperial calendar, which uses consecutively numbered days within a 365-day year, and consecutively numbered years beginning with year zero — the founding year of the Imperium. The initial date for this situation is 300-1105; 300 is the current day (the 300th day) of the 1105th year of the Imperium. Once the adventure begins, time should flow normally. If necessary, change the date to match a local situation or campaign.

Location: Alell, Regina Subsector, Spinward Marches

Location: This adventure takes place on the world of Alell (0106-B46789C-A), in the Regina subsector of the Spinward Marches of the Imperium. Alell is 6,400 kilometers in diameter, with a standard atmosphere and approximately 70% of its surface covered with oceans of water. Alell has a population numbering 203 million as of the census of 1100. Its government is an impersonal bureaucracy. The world, when first colonized, was under the authoritarian rule of the colonization ship captain, and his descendents have continued to rule under the title Captain. The government, responsible to this Captain, provides many necessary functions, but these functions seem to be performed more for the overall good of the world (and the government) than for the individual citizens. The law level on Alell is extremely restrictive and no weapons of any sort are allowed in the possession of individuals. Alell's tech level is A, about average for the interstellar community.

Starport: Alell Down Starport is classified as type B, providing good quality facilities, with some capacity for ship repair and the construction of interplanetary craft. A Travellers' Aid Society hotel and office is located just outside the starport boundary. Refined fuel is available at Cr500 per ton; unrefined fuel is available at Cr100 per ton.

Alell Down's companion facilities, Alell Orbital Starport, provide services, refueling, and maintenance for unstreamlined ships calling on the world.

CHARACTERS

Any group of characters may set out on this particular adventure. For best results, the group should include certain skills and a ship.

Ship: This adventure centers on the crew of a ship which has been denied an exit visa from Alell. The group must have a ship, preferably a free trader. If they do not have a ship, the referee may direct the situation by providing a patron: the captain of a free trader who needs a crew. Once the crew has served for several jumps, the situation on Alell can be presented.

Skills: Skills of probable value during this adventure include administration, streetwise, bribery, forgery, and any other non-violent skills which can convince others to act on the characters' behalf.

Weapon skills will be of only minimal value because of Alell's high law level.

Transport skills may prove useful in the event that the group needs to undertake a journey of any sort.

Equipment: The group is equipped with whatever items they may have bought prior to arriving on Alell. While on Alell, the adventurers may wish to buy other equipment which may become available in the situations they encounter.

In addition, the group's ship should have the contents of the ship's locker shown below (although the referee may indicate that it also contains other equipment).

SHIP'S LOCKER

eight **vacc suits**, each with oxygen tanks for eight hours and **short range communicators**

four **shotguns**, each with ten loaded magazines

two **automatic pistols**, each with ten loaded magazines

four **cutlasses**, each with a belt scabbard

one **lock pick kit**

eight sets of **cloth armor**

one pair of **image-intensifier goggles**

one **radiation detector**

one **grav belt**

one **long range communicator**

No other equipment is available at the moment, but items consistent with Alell (tech level A or less, and not restricted by law level C) may become available to the characters as the adventure proceeds.

FREE TRADER BEOWULF

If the adventurers have been hired on as crew for a free trader, the following description of the ship should be made available. In other situations, the referee may wish to use details of the ship in describing that situation.

The *Beowulf* is a type A free trader, 200 tons, and approximately thirty years old. It has ten staterooms and twenty low berths. Cargo capacity is 82 tons. The ship is streamlined, and can refuel by skimming gas from gas giants or drawing water from planetary oceans. Armament for the ship consists of one triple turret with a heterogeneous mix: one missile, one beam laser, and one sand-caster. A second hardpoint on the hull is plated over; some day, the captain hopes to acquire a second turret and weaponry.

Expenses: Expenses for this sort of ship are high. The monthly bank payment is Cr155,000. Life support (assuming two trips per month) runs Cr24,000; fuel costs are Cr30,000 per trip (refined fuel), or Cr6,000 per trip (unrefined fuel). Minimum crew salaries come to Cr18,000. Berthing costs are on top of that. Approximate total costs for the ship per month run Cr200,000. Actual costs depend on usage rates and number of trips made.

Revenues: The ship (assuming two trips per month), can produce an approximate maximum income of Cr282,000. Because ship usage is rarely at maximum, average income is somewhat less.

THE SITUATION AT ALELL DOWN STARPORT

The ship has just landed on Alell, and is discharging a chartered cargo as well as passengers. The captain will receive Cr80,000 when the cargo is signed over in a few hours.

The adventure begins with the presentation of the situation. The group, in its preparations, should be aware that they are on Alell, unloading cargo, and probably looking for new cargo. Procedures from the chapter on trade and commerce, as well as passenger and cargo availability, should serve to fill these needs.

After about a day on the world, a port official calls

the ship and asks that the captain report to the port warden's office as soon as convenient. Roll for reaction by the port warden when the captain arrives to determine attitudes and the method of conducting the meeting. The message will, however, be the same. A seemingly minor irregularity in the ship's papers has been discovered and as a consequence, the port warden is revoking the ship's exit visa. The ship will be forced to remain at Alell until the matter is cleared up.

If the port warden is reacting positively to the captain, he should confide that the problem is minor, and really just a matter of paperwork, and that it should be resolved within a few days, a week at most.

The captain, will of course, see the matter differently. Even assuming that he can fill his cargo hold and staterooms, he has to leave within six days in order to earn his fees, or he risks being late with his next ship payment. If he misses that payment, he could lose his ship.

The Irregularity: As soon as possible, the captain will take the group into his confidence and discuss the probable nature of the irregularity that is causing the problem. Some months ago, his ship was involved in a smuggling operation. He undertook the job because he needed cash. And he almost got caught. In the rush to escape capture, he left a landing field while enforcers were approaching the ship, and he thinks that certainly one or more of them were killed.

That incident took place parsecs from here, and his ship was properly disguised to avoid proper identification. Nevertheless, if they are checking into that incident, they could find him out. He would lose the ship, and possibly his life. It is essential that they leave Alell before the investigation turns anything up.

Besides, the authorities will probably assume that the present crew was part of the incident, and hold them as well.

OPTIONS AVAILABLE

The oppressive law level of Alell makes many of the usual options (such as a running gun-battle as the ship lifts off) impossible. Alell will not tolerate that sort of behavior, and most likely everyone would be killed if they tried that. Instead, subtlety and discretion are called for.

The crew has one major course of action available: to persuade someone to grant an exit visa to the ship and her crew. That requires finding the right official and doing whatever is necessary to convince him or her to grant the right papers.

During the course of the search, it is possible that the crew could find out where to steal the right papers, or discover their format so that they could be forged, but the major emphasis must be on dealing with the bureaucracy.

TIME SPANS

The ship needs to leave within six days. Within that time, the crew must secure an exit visa. Nevertheless, time should pass in a reasonable manner.

Each day should consist of four periods: morning, afternoon, evening, and night. No meetings are allowed at night; everyone should be sleeping at that time. One meeting with an official is allowed per other period. Entertainment of



officials is allowed only in the evening.

Sleep: The crew must sleep one period in four. Generally this will be at night. In some circumstances (such as the crew sneaking out or burglarizing offices at night) sleep must be taken in the period before night. Initially, efforts will be slow, but between one and three officials can be talked to per day. Specific details concerning which officials can be met and when are discussed in the sections on meeting officials.

Permission to Leave: On the fifth day, begin rolling for official granting of an exit visa. Throw the day number or less for the port warden to call the ship and say that the exit visa has been restored. For example, on the fifth day, throw 5- for the exit visa to be granted; on the seventh day, throw 7- for the visa to be granted. On the seventh day and thereafter, if the exit visa is not granted officially, the referee should produce an announcement that it is expected on the following day.

THE BUREAUCRACY ON ALELL

As the crew of the ship struggles to find a way off-planet before their time runs out, they will meet all manner of bureaucrats performing their roles within the government of Alell. These bureaucrats are the key to the crew's safety. Within the morass of different departments is the possibility that one of these officials can provide an exit visa.

Thirty-four distinct officials are presented. Each listing shows an official number (just to help keep track of them all), a description of the official's position, a bribery price for the official, a note on the skills which may help in dealing with him or her, and an indication of what that official can do for the crew.

The referee should use these officials to present a challenge to the group; each listing is a framework on which an encounter may be built. Once the official is carefully enticed into helping, the group finds out the precise nature of that help and can proceed to the next official.

Reactions: The referee should roll on the reactions table to determine the official's response to the crew's approach. That roll is also the official's throw (or less) to perform whatever he or she is capable of for the crew. Thus, if an official's reaction roll is 7 (non-committal) then the crew must roll 7- on two dice to entice that individual to help.

Bribery: As indicated in the definition of bribery skill, bribery may be used to convince an individual to help. The individual listing shows his or her price for a bribe. If that price is paid, then bribery skill may be used as a minus DM on the throw to convince (which is helpful). Reaction rolls of less than 7 are considered negative, and bribes offered to individuals in those circumstances will be rejected. On any rejected bribe offer, roll 3- to see if the offer is then reported to higher authorities.

The amounts shown for the bribes are minimums and are to be used as guides. A character, when contemplating a bribe, should be allowed to arrive at his or her own suggested amount. If that is too low, then the referee may suggest that it is insufficient. If it is too high by more than approximately Cr100, then the referee may suggest that it is more than enough.

Other Skills: Administration and streetwise may be used

as skills to assist in getting an official to help. If the skill is mentioned in the official's listing, then it can be used as a DM. However, only one person may use such a skill while dealing with the official. Thus, the most capable individual should step forward to deal with the bureaucrat.

Some skills are listed as double. A listing of double administration indicates that each level of administration skill applied to the situation counts as two.

Entertainment: The group may decide to try entertaining an official, taking him or her out to dinner, plying the official with drinks and a good time, all in an attempt to prompt a positive, helpful reaction. If entertainment is a possible method of influencing an official, then the word entertainment (followed by a price) appears. That price must be paid by the crew for the official and for each member of the crew engaged in the festivities. The number of crewmembers taking part in the entertainment is the DM allowed on the throw for the official to help. If the official is not amenable to entertainment, then any offer made will be politely (or not so politely, depending on reaction throws) declined.

Ingenuity: During the course of the encounters, players may come up with ingenious ideas for meeting officials, influencing them, or hurrying the course of events along. The referee has a responsibility to respond to such suggestions and to allow those which make sense. For example, a player character whose prior career was the navy might be given an advantage when dealing with the Alell Navy Port Defense Squadron executive officer (official number 27), and an even greater advantage if the player character is a former naval officer, perhaps forcing an appointment later in the same day instead of on the next day. A character with computer skill could check the local computer banks for information on an official, perhaps learning a clue to the approach most likely to gain a positive reaction. A character with streetwise might be able to force an appointment for earlier than would otherwise be granted. The referee should encourage ingenuity on the part of the players, but such attempts should always be kept reasonable and should be based on the characteristics, skills, and experience of the characters.

THE FIRST ENCOUNTER

The group automatically meets official number 0. He is a clerk who can be bribed for Cr10, and who can be influenced by entertainment and admin skill. He can refer the crew to a customs supervisor (official number 17) who might be able to help.

0. Clerk in the port warden's office. Cr10. Entertainment (Cr10), administration. Refers crew to customs supervisor (official number 17).

The encounter might proceed in the following manner: official number 0's initial reaction roll is 6, unreceptive. The characters cannot expect a lot from this clerk, but decide to try for something. The characters could elect to entertain him or to use administration skill. Offering to bribe a negatively reacting character would be ill-advised. To entertain, one character could invite the clerk out for

drinks later that evening (and the clerk would accept on 6-, his initial reaction throw or less). If the invitation were accepted, then the character would have to pay Cr20 (Cr10 for each of them). For each additional character accompanying the party, the cost would be Cr10 more.

Ultimately, the crew would have to roll 6- for the clerk to refer them to someone who might help. A DM of minus the number of adventurers accompanying the official for the evening is allowed. If three crewmembers came along, the DM would be -3, for a throw of 9- for success. If the roll succeeds, they are referred to a customs supervisor (official number 17).

Because entertainment must take place in the evening, there may not be time for each official to be entertained. Instead, some other applicable skill may be brought into play. Because this official is influenced by administration, some character with admin skill may make the appeal. Admin skill applied is used as a DM on the throw for success. If the character has admin-2, then the throw for success is 6-, DM -2, for a final throw of 8- for success.

MEETING OFFICIALS

Once per day, the group will randomly encounter an official who has potential for helping. Only one such official can be met randomly per day, regardless of whether the group splits up or remains together. If the group splits up, then roll to determine which individual character actually meets a potentially helpful official. To determine which official has been randomly encountered, roll two dice. Allow a +DM of either the highest administration skill level present, or the highest streetwise skill level present. The resulting number is the number of the official encountered. If this official has already been encountered, there is no random encounter.

Randomly encountered officials may refer the crew to other officials, as may those other officials. Officials to whom the crew are referred may be met with on the day following the day of referral. If, on the first day, official number 0 refers the crew to official number 17, then the crew may meet with official number 17 on the second day.



Subsequent Encounters: While the crew can find only one new official randomly per day, previously encountered officials may provide references that enable the crew to seek out other officials. It is possible to meet with two referred officials per day in addition to the one randomly encountered official.

For example, on the first day, the crew rolls 4 (DM +2 for highest streetwise in the group) and meets an administrative clerk in the Department of Registration (official number 6). They convince this clerk to help, and he refers them to the supervisor in the Department of Registration (official number 13). On the next day, the crew rolls a 5 (DM +2 for highest streetwise in the group) and encounters the local Commemorative Society membership supervisor (official number 7). The crew may meet with both the randomly encountered official number 7 and the referred to official number 13.

Multiple Encounters: The referee should note those officials who have been encountered. Once an official has been encountered, further encounters will have no result. That is to say, the crew has only one chance with each official. Future meetings will not produce additional referrals.

The Capital: Lucifer, the capital of Alell, lies some 1,200 kilometers north of Alell Down Starport. Not all bureaucrats perform their duties near the starport; those officials numbered 25 and higher have offices in Lucifer. Travel by monorail from the starport to Lucifer takes about six hours: in effect, a character riding the monorail must spend all morning, all afternoon, all evening, or all night doing so. Monorail passage costs Cr80 per person one way, and Cr150 per person round trip.

THE OFFICIALS

The following list of 33 officials includes individuals from all levels of the bureaucracy on Alell. Only officials numbered 2 through 12 (or higher as allowed by DMs based on streetwise or administration skill) can be encountered randomly. Such encounters are assumed to occur as the crew visits various government offices in search of assistance. Other officials can be encountered only if referred to by a previously encountered official.

1. **Clerk in the port warden's office.** Cr50. Administration. Refers crew to clerk in the starship regulation office (official number 10).
2. **Clerk in the immigration office.** Cr75. Administration, streetwise. Refers crew to chairman of the Commemorative Society Committee for Non-Residents (official number 19).
3. **Starport security enforcer.** Not bribable. Streetwise. Entertainment (Cr10). Refers crew to starport security supervisor (official number 18).
4. **Customs inspector.** Cr100. Administration, streetwise. Refers crew to clerk in the port warden's office (official number 1).
5. **Customs inspector.** Cr100. Streetwise. Refers crew to clerk in the starship regulation office (official number 10).
6. **Administrative clerk in the Department of Registration.** Cr40. Administration. Refers crew to supervisor in the Department of Registration (official number 13).

7. Commemorative Society membership supervisor. Cr100. Administration, entertainment (Cr20), streetwise. Refers crew to secretary to the Commemorative Society Central Committee chairman (official number 31) in Lucifer.

8. Starship safety inspector. Cr60. Administration. Refers crew to starship movement control supervisor (official number 14).

9. Immigration officer. Cr10. Entertainment (Cr30), streetwise. Refers crew to supervisor in the Department of Immigration (official number 21).

10. Clerk in the starship regulation office. Cr25. Administration. Refers crew to supervisor in the starship regulation office (official number 15).

11. Starport hotel clerk. Cr20. Streetwise, administration. Refers crew to supervisor in the Department of Immigration (official number 21).

12. Commemorative Society Local Education Committee chairman. Cr200. Entertainment (Cr50), administration. Refers crew to starport security enforcer (official number 3).

13. Supervisor in the Department of Registration. Cr100. Double administration. Has samples of exit visas for examination. Refers crew to secretary to the administrator, Department of Registration (official number 16).

14. Starship movement control supervisor. Cr75. Double administration. Refers crew to librarian, starship movement control archives (official number 20).

15. Supervisor in the starship regulation office. Cr150. Entertainment (Cr35), streetwise, administration. Refers crew to a lawyer specializing in starship registration (official number 22).

16. Secretary to the administrator, Department of Registration. Cr200. Administration. Has blank exit visa forms in his safe. Refers crew to a merchant broker (official number 23).

17. Supervisor in the Department of Customs. Cr300. Entertainment (Cr100). Refers crew to chairman of the Commemorative Society Committee on Non-Residents (official number 19).

18. Starport security supervisor. Cr150. Administration, entertainment (Cr90). Refers crew to Alell Navy Port Defense Squadron executive officer (official number 27) in Lucifer.

19. Chairman of the Commemorative Society Committee for Non-Residents. Cr150. Administration. Regrets that he cannot help; refers crew to starship safety inspector (official number 8).

20. Librarian, starship movement control archives. Cr40. Administration. Refers crew to supervisor in the Department of Immigration (official number 21).

21. Supervisor in the Department of Immigration. Cr75. Administration. Refers crew to clerk in the immigration office (official number 30) in Lucifer.

22. Lawyer specializing in starship registration. Cr400 (in addition to a legal fee of Cr100). Double streetwise. Refers crew to clerk in the registration office (official number 28) in Lucifer.

23. Merchant broker. Cr200. Entertainment (Cr100), administration. Refers crew to a fellow merchant broker (official number 25) in Lucifer.

24. Clerk in the starship movement control local office.

Cr500. Streetwise, administration, entertainment (Cr50). Can forge an exit visa (which will work on 6+).

25. Merchant broker. Cr100. Administration. Refers crew to a fellow merchant broker (official number 26) in Lucifer.

26. Merchant broker. Cr50. Streetwise. Regrets that he cannot help, but refers crew to an administrative clerk in the Department of Registration (official number 6).

27. Alell Navy Port Defense Squadron executive officer. Not bribeable. Entertainment (Cr50). Refers the crew to the Imperial assistant consul (official number 32) in Lucifer.

28. Clerk in the Department of Registration. Cr80. Administration, streetwise. Refers crew to clerk in the starship movement control local office (official number 24).

29. Supervisor in the passport office. Cr150. Administration. Has authority to provide an exit visa provided the ship carries a consignment of visa validation forms off-world at no charge.

30. Clerk in the immigration office. Cr180. Streetwise, administration. Refers crew to supervisor in the passport office (official number 29) in Lucifer.

31. Secretary to the Commemorative Society Central Committee chairman. Cr500. Administration. Regrets that he cannot help the crew.

32. Imperial assistant consul. Cr10. Administration. Refers crew to a supervisor in the Department of Trade and Commerce (official number 33) in Lucifer.

33. Supervisor in the Department of Trade and Commerce. Cr5. Provides exit visa upon application.

ADMINISTERING THE OFFICIALS

The referee has an opportunity to use the brief descriptions of the officials to provide interesting situations for the Traveller players in this adventure. The following is an example of a strictly by-the-rules, but nevertheless wrong, way to handle an encounter.

"You have just met official number 0, a clerk in the port warden's office. I have rolled for his reaction, and he reacts unreceptively — that's a six. Admin will affect him. So who wants to talk to him?"

One character speaks up, "I will; I have Admin-4."

"OK, roll to see if he'll help."

He says, "I need 10—, right? The clerk's reaction roll, minus a DM of -4 for my admin skill?"

"Right."

"I rolled a 5. What's the clerk say?"

"He says you can talk to the customs inspector (official number 4), who might help."

"Right. Let's go."

Now for an idea of the right way to handle the same situation.

"As you leave the port warden's office, a clerk at the counter catches your eye." At this point, roll for his reaction to the crew. It's a 6, unreceptive, but he still looks like he might be able to help. Since the players don't know what skills might come into play, allow the entire group to approach, but single out one player in the crew to talk; he might not have the best skill level for the

task, but he should have some appropriate skill level.

"OK, I'm trying to engage the man in conversation," says one character.

"He'll talk, but seems brusque." Encourage the players to figure out the procedure themselves. "He seems kind of officious."

"Maybe we could slip him some cash?" interjects a character with bribery skill.

"Do you want to try that?" Let the character make the decision while giving enough data to allow a reasonable response. One without bribery skill should be rebuffed, while one with skill might be told, "He's not acting friendly enough to be bribable at the moment."

If necessary, push the players to ask the official if he can help. Note, if necessary, who does the asking, and use that player's skills to modify the die roll. Roll the dice secretly, but let the players know they are being rolled. The result is 5, with enough DMs to allow the clerk to give some help. The referee should say, "The clerk thinks maybe you should make an appointment to see the customs inspector in Building 134 tomorrow. He might be able to help."

CRIME

There is always the possibility that the crew of the ship might turn to obviously illegal means to achieve an exit visa. The temptation could surely be extra strong after meeting the secretary to the administrator, Department of Registration (official number 16), who has a supply of blank exit visas in his office safe. In such a case, the group could decide to try to burglarize the safe some night.

Burglary: Attempts at burglary will have to take place at night, which means that the would-be burglars need to sleep early, and need to gather up any required equipment for the job. If this option is selected, the referee will have to provide floorplans for the office and building to be broken into, as well as any other details.

Bribery: Graft and corruption are parts of life on Alell, and the punishment for bribery (or attempted bribery) is rather light: a Cr100 fine. However, getting caught at attempted bribery is a social blunder, and further attempts at bribery by a character are subject to a DM of +1 (which tends to make bribery less possible).

Curfew: The high law level on Alell (12) is very restrictive. No outside activity is allowed without special permits during night. Throw 12+ to avoid being stopped by an enforcer for curfew violation during night. Starship crews can often plead important commercial necessity and evade any citation by an enforcer on 8+. If the policeman insists, the group is subject to an evening at the police station and a Cr50 fine each.

Police Encounters: Each day, the group (or each individual in the group) is subject to a throw of 12+ to avoid being routinely stopped by an enforcer to determine the legitimacy of his or her activity. These throws may be avoided if the group is being scrupulously careful in its business; if not, then there is a chance of police encounter. Note that 12+ means automatic harassment once per day.

Weapons: Carrying any weapons when questioned by

an enforcer is grounds for immediate arrest, confiscation of the weapons, and a jail term of up to 1D days.

THE COMMEMORATIVE SOCIETY

Most of the titles for the officials available make sense and can be readily understood. The titles that make less immediate sense are those associated with the Commemorative Society. The following background should prove useful to the referee.

The Society: Annually, the government sponsors a week-long celebration of the initial settlement of Alell. During those seven days, work comes to a stand-still, and citizens can spend their time commemorating the establishment of this society in which they live. There are parades, parties, vacations, all manner of enjoyable diversions. The Commemorative Society is responsible for organizing the celebration. It has the power to tax any citizen one week's labor (in kind, in money, or in goods at wholesale) in order to support the activity. Some citizens, such as entertainers and servants, actually contribute their time during the week of celebration. Government officials are exempt from service, although some are taxed to provide their normal duties and are given time off later.

Local chapters of the Commemorative Society stage local celebration ceremonies; the central chapter of the Society produces the lavish celebration in the capital.

Members: About 5% of the population has joined the Commemorative Society. Members contribute their labor in the continuing organization of the celebration. Members probably contribute more time and labor than the general population. The Captain (Alell's head of government) generally judges the quality of the Commemorative Society members by the quality of the celebration. A good celebration will bring recognition to the Society's many members; this recognition translates into political power with the government's impersonal bureaucracy. Many of the Society's members are individuals who need to deal with the government, and use their positions within the Society to help them.

REFEREE'S CHECKLIST

In administering this adventure, this checklist may help the referee provide a consistent situation to the players.

1. Day One.

- A. Indicate initial situation.
- B. Allow encounter with official number 0.
- C. Allow random encounter with official.
- D. Schedule next day's appointments with referred-to officials.

2. Subsequent Days.

- A. Allow random encounter with official.
- B. Keep appointments with referred-to officials.
- C. Schedule next day's appointments with referred-to officials.

WHERE TO FROM HERE?

Success or failure in acquiring an exit visa ends this adventure. Ideally, the group succeeds, and goes on to the next world. Failure calls for the referee to administer the situation according to the events. Bon Voyage!

Traveller's Guide to the Universe

An infinity of **Traveller** universes are possible. In one, no life exists but what is Terran-derived; in another, no life ever gains ascendance over more than its own star system. Countless other possibilities are available to the fertile imagination.

In order to more completely describe events and possibilities in **Traveller**, one universe has been selected and more fully explored. This universe provides a large-scale consistent background against which any number of situations and scenarios can be set. It is futuristic enough to provide science fiction adventure, but it is also similar enough to the world we know that it seems logical and comprehensible even to a player who does not have access to all of the background material.

Information about this universe (which centers upon the Imperium — a large star-spanning empire over a thousand years old) is presented in the form of essays and maps. It is recommended that every dedicated player read this chapter in order to have a background on what is going on.

Library Data: The chapter on library data presents information which is less familiar. Unlike these basic background essays, library data is provided to the players only when the referee thinks proper.

THE IMPERIUM

The key to the stars is the jump drive — without it, the space between the stars takes years, even lifetimes, to cross. With it starships travel parsec distances in a matter of weeks. The development of a jump drive marks the beginning of interstellar travel for any race, including humanity.

A jump drive is both fast and simple. With one, it is possible to move from here to there (where both places are at least one hundred planetary diameters out from any large masses) in a period of about a week. The time in transit is independent of the distance travelled, which makes this system practical for interstellar travel, but for little else. The distance travelled with the jump drive is a function of the specific jump drive in use — for varying sizes and complexities of jump drives, the performance ranges from one to six parsecs, with greater distances as yet unavailable. In point of fact, the current theory of jump drive actually precludes greater jump distances.

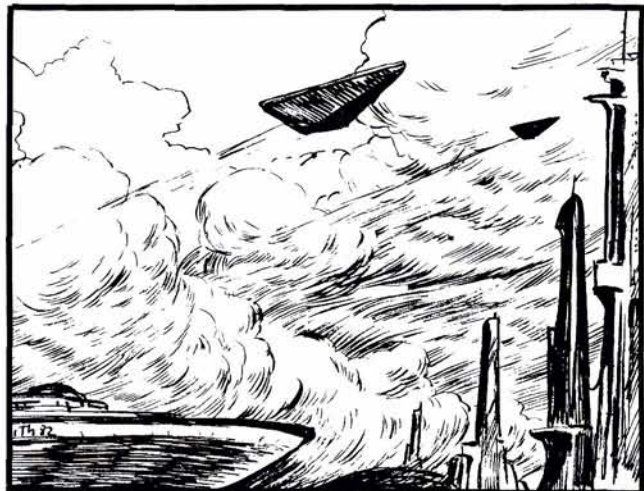
Another central fact of interstellar travel is the fact that no method of information transfer faster than jump drive has been discovered. Ships can carry messages, but radio still lags at mere light speed. Communication is always restricted to the speed of interstellar transportation.

For Terra, the first rudimentary jump drives came into general use in the mid-21st century. These drives introduced the Terrans to Alpha Centauri, the farther stars, to the First Imperium (then called only the Imperium), and to the First Interstellar War, 2113 AD. That series of wars (there was, of course, more than one) hastened the fall of the Imperium, and resulted in the takeover of the existing structure by expanding Terran forces. Their rule (The Rule of Man, or the Ramshackle Empire, depending on who wrote the history) slowed, but did not stop, the continuing decay of empire.

What followed is romantically called the Long Night. It wasn't romantic at all. The fall of the empire halted much of the trade and commerce between worlds — many of these worlds simply died, no longer able to maintain their previous standard and unable to recapture the lower technology levels necessary for survival. Some worlds banded

together in pocket empires, mere shadows of the former glory that was the First Imperium. Some worlds wasted their technological jewels fighting for the scraps of the empire that were left. The fighting and the turmoil lasted nearly two hundred and fifty years — from twilight to maybe nine o'clock. Some worlds didn't even know for sure that the empire had fallen; communications ships simply stopped coming, and no one could find out why.

Night continued for another twelve hundred years. Worlds turned in on themselves, developing local resources and moving in their own directions. About three decades before dawn, a group of worlds known as the Sylean Federation established a firm industrial base and a strong interstellar government. This, coupled with a high population pressure, provided the impetus necessary for the re-establishment of the empire. In a thirty-year campaign, the Sylean Federation actively recruited new member worlds for its interstellar community. Public relations programs, active commercial warfare, and (where necessary) battle fleets joined to bring all of what is now the Capital Sector under one rule. Proclaiming the Year Zero a holiday year to mark the beginning of a new era, Cleon accepted the iridium crown of the Third Imperium, establishing it firmly on the foundations of the First and Second.



THE STRUCTURE OF THE IMPERIUM

The Imperium is a far-flung interstellar community encompassing over 1100 worlds within a region approximately 700 parsecs across. It has now ruled its territory for eleven centuries and looks to continue for many more. Interstellar government over such a large area, however, becomes a philosophical question; the problem initially seeming to be insurmountable. Distance, travel time, and communication lag all conspire against a functioning, efficient structure which can meet the needs of its subject population. But the lessons of history serve as a guide. Spain in the 16th century ruled much of the New World, with travel times of about a year between the seat of government and the new territories. In fact, through most of history, timely governmental communication, with both a rapid dispatch of instructions and an equally rapid response, has been a dream, not a reality.

The Imperium has come upon two solutions which together ameliorate the problems of distance: the xboat network and feudalism.

The Xboat Network: Like the body, with its network of veins and arteries, the Imperium is permeated by a network of xboat routes, or links, devoted entirely to the carriage of messages for official, commercial, and private purposes.

The express boat (xboat) is a small, fast ship filled with a pilot compartment, message data banks, and jump drives. The fit is so tight that the tiny ships don't even have maneuver drives. Each is capable of jump-4 (four parsecs in a week); it jumps, relays its messages to the station on arrival, and then waits to be picked up by a tender, refueled, and sent on its way to the next station on the route. The local station on a world accepts messages, encodes them, and transmits them to a station at the edge of the stellar system. The network works like the pony express — with messages always moving at top speed. Transfer time for the messages from one xboat to another can be as short as ten minutes, and is rarely more than an hour.

Ultimately, the little xboats make their way to one of the many Imperial way stations scattered throughout the

Imperium's subsectors. There they are refitted, overhauled, and refurbished, only to be sent on their way again.

The xboat network makes the edge of the Imperium about 44 weeks out from the core and capital; that represents a savings of better than 50% of normal travel time. And still the Imperium is straining under the effects of distance.

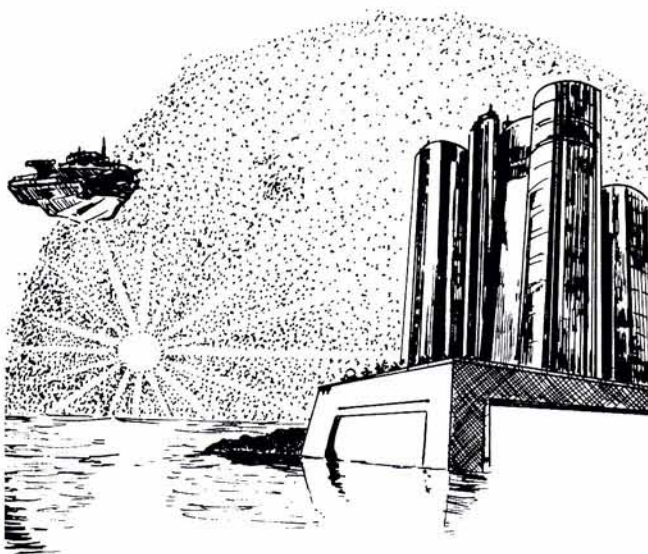
Feudalism: With such great distances separating stellar systems, individual responsibility and authority become of great importance. The Imperium is divided into sectors (twenty of them), each about 32 parsecs by 40 parsecs in size. Each sector is divided into sixteen subsectors (8 by 10 parsecs). And within a subsector are perhaps thirty or forty systems, each with a star, worlds, and satellites.

Individual worlds, and even entire systems, are free to govern themselves as they desire, provided that ultimate power is always accorded the Imperium. Interstellar government begins at the subsector level — on one world designated the subsector capital. The ruling figure at the subsector capital is a high-ranking noble selected by higher levels of government. This duke has a free hand in government, and is subject only to broad guidelines from his superiors. But at the same time, the duke owes fealty to the higher levels of government, ultimately to the Emperor himself. The feudal approach depends greatly on a sense of honor, one cultivated by the hereditary aristocracy. This sense of honor is very strong within the Imperium; it has proven essential to the survival of this far-flung interstellar community.

THE MEGACORPORATIONS

Millions of organizations do business within and without the Imperium. Most of them are limited to a town or province; some reach as far as one or two worlds. A few thousand trade over one or more subsectors; a few hundred cover one or more sectors. Only a few firms are truly Imperial in scope: the megacorporations. Staggering in size, these organizations are so large that no one person can know everything they are concerned with at any given moment. Total shares of stock, annual profits, number of employees are all astronomical. In many cases, the organizations are so large that different divisions of the same megacorporation may actually be working at cross purposes. For example, a local branch of Ling-Standard Products may need an important industrial process currently being developed by a local company. The branch manager has it within his power to negotiate purchase of that process, and if negotiations fall through, to use industrial espionage to steal the formula. What he does not know, and probably cannot know, is that the local company is owned, through a long, tortuous series of holdings, by Ling-Standard Products.

Most megacorporations are organized very much like smaller companies. They have a board of directors, a president, and many vice presidents. On this level of power, however, the board and the higher-level executive officers are largely out of contact with the day-to-day (and even the year-to-year) functioning of the company. These upper-level echelons plan general policy and long-range actions. The most important executives, in terms of personal power,



are the various regional managers. The term region is imprecise, but usually refers to an area covering one or more sectors. A regional manager may control only a small portion of the megacorporation's assets, but can hold more power than representatives of the Imperial government.

A small number of Imperial regulatory agencies have power over megacorporations, and the companies are subject to local and Imperial taxes. But, provided the company does not blatantly violate Imperial sovereignty, regional managers can usually conduct their business as they see fit. Because a direct confrontation with the Imperium would be bad for business, intentional violation of Imperial law occurs only on a covert basis.

Titles: Except for those companies predating the Imperium, all corporations engaged in interstellar commerce within the Imperium's borders are required to possess an Imperial charter. Such a charter is indicated by the abbreviation LIC (for Limited liability Imperial Charter) following the company name. Occasionally, corporations make use of archaic titles, such as the Terran Ltd, Inc, Amt, AG, and SA. This form is used to indicate that the company predates the Third Imperium (rarely the case) or to add charm and quaintness to the title.

A few Vilani megacorporations are still in business under their Vilani titles. The names, at least, date back to the First Imperium, and were the names of the Imperial organizations, half industrial trusts, half government bureaus, which controlled commerce under the Vilani Imperium.

Ownership: Corporations belong to their shareholders. An individual shareholder usually owns a pitifully small proportion of the company; the main value of stock is the dividends that it pays and its cash value if sold. Individuals or companies which hold large blocks of stock (more than 5%) hold more than money: they hold power as well.

It is traditional for any megacorporation to place some of its stock in the hands of the Imperial family and various subordinate noble families. Rarely is the placement considered a bribe; nobles serve on the board of directors of many megacorporations, and are consultants to many more. The Imperial family's great wealth initially derived from a commercial empire, and the promotion of trade and commerce has remained a major emphasis of Imperial government.

THE SPINWARD MARCHES

A major mapping division of interstellar territory is the sector. Each consists of sixteen subsectors arranged in a rectangle four across and four high. For reference, these sixteen subsectors are lettered from A to P, as shown in the diagram.

Interstellar directions within the galaxy are expressed with respect to its shape and rotation. Toward the core, the term is coreward; toward the rim and intergalactic space, rimward. In the direction opposite to galactic rotation, trailing; and in the direction of galactic spin, spinward. These direction conventions provide the name for a frontier of the Imperium: the Spinward Marches.

At the spinward edge of Imperial territory, 120 parsecs from the original center of the Imperium, the Spinward

A	B	C	D
E	F	G	H
I	J	K	L
M	N	O	P

SUBSECTORS WITHIN A SECTOR

Marches represent one of the furthest extents of exploration and domination by Imperial forces.

Up until the formation of the Third Imperium, the Spinward Marches were only sparsely settled, primarily by the Sword Worlds and the Darrian Confederation. By 100, the first Imperial surveys had been completed in this region, and by 200, major inroads into settling the Marches had been made. By 300, the Imperium had incorporated the sector into itself.

This is not to say that the Spinward Marches is totally settled, or totally tame. The sector is only partially incorporated into the Imperium, with the Sword Worlds, the Darrian Confederation, and scattered other areas maintaining their independence. Many worlds remain unsettled or unexploited; the entire sector is, and will be for years to come, a frontier.

Vital Statistics: The Spinward Marches consists of 432 systems with a total population of 388.2 billion. There are ten asteroid belts and many amber- or red-coded zones. The Imperial border winds its way through the sector, separating the Imperium from various client-states, undeveloped areas, and rivals.

The subsectors of the Spinward Marches are very diverse; they feature extremes of high and low tech level, population, and industrial development within a few parsecs of each other. Great opportunities exist for enterprising individuals and companies.

Subsector Names: The sixteen subsectors (with capitals listed in parentheses) in the Spinward marches are:

A Chronor (Chronor), B Jewell (Jewell), C Regina (Regina), D Aramis (Aramis), E Querion (Querion), F Vilis (Frenzie), G Lanth (Lanth), H Rhyllanor (Rhyllanor), I Darrian (Mire), J the Sword Worlds (Gram), K Lunion (Lunion), L Mora (Mora), M the Five Sisters (Iderati), N District 268 (Mertactor), O Glisten (Glisten), and P Trin's Veil (Trin).

Regina Subsector

The Regina subsector is a diverse, developing subsector on the very fringes of the Imperium. The Imperial frontier runs along its coreward edge and portions of its spinward edge. Its major xboat routes connect it with Jewell subsector to spinward and with Lanth subsector to rimward, providing major trade channels which roughly parallel the Spinward Main, a well-used natural jump-1 trade route.

Although virtually all of the worlds in the subsector are settled, there also remain vast areas with potential for exploration and exploitation, and this frontier subsector is full of opportunity for the entrepreneur.

<i>Name</i>	<i>Location</i>	<i>UPP</i>	<i>Bases</i>	<i>Remarks</i>	
Efate	0105	A646930 D	B	Industrial.	
Alell	0106	B46789C A		Rich.	
Yres	0202	BAC6773 7			G
Menorb	0203	C652998 7		Poor.	
Uakye	0205	B439598 D		Non-industrial.	
Whanga	0206	E676126 7		Non-industrial.	G
Knorbes	0207	E888787 2		Rich. Agricultural.	G
Forboldn	0208	E893614 4		Non-industrial.	G
Ruie	0209	C776977 7		Industrial.	A G
Jenghe	0210	C799663 9	S	Non-industrial. Owned by Regina.	G
Pixie	0303	A100103 D	N	Non-industrial. Vacuum World.	G
Boughene	0304	A8B3531 D	S	Non-industrial.	G
Hefry	0309	C200423 7	S	Non-industrial. Vacuum World.	
Regina	0310	A788899 A	A	Rich. Subsector Capital.	G
Feri	0405	B384879 B	S	Rich.	
Roup	0407	C77A9A96	S	Industrial. Waterworld.	A G
Pscias	0506	X355423 1		Non-industrial.	R G
Yori	0510	C360757 D		Rich. Desert World. Research Station.	G
Dentus	0601	C979500 A	S	Non-industrial.	
Kinorb	0602	A663659 5		Rich. Non-industrial.	G
Beck's World	0604	D88349D 4		Non-industrial.	G
Enope	0605	C411988 6		Non-agricultural. Industrial.	
Wochiers	0607	EAC28CC9			G
Yorbund	0703	C7C6503 7		Non-industrial.	
Shionthy	0706	X000742 8		Non-agricultural. Asteroid Belt.	R G
Algine	0708	X766977 4			R G
Yurst	0709	E7B4643 5		Non-industrial.	G
Heya	0802	B687745 5		Rich. Agricultural.	G
Keng	0805	E2718CA 3			G
Moughas	0806	CA5A588 B		Non-industrial. Waterworld.	G
Rethe	0808	E230AA8 8		Poor. Non-agricultural. Desert World.	G
Inthe	0810	B575776 9	A	Agricultural.	G

The Regina subsector contains 32 worlds with a total population of 60.1 billion. The highest population is 26 billion, at Rethe; the highest tech level is D, at Efate, Uakye, Pixie, Boughene, and Yori. All worlds in the Regina subsector are members of the Imperium with the exception of Ruie.

Notes: The column headed *name* gives the name of the world. The four digit number under *location* is the hex number of the world on the subsector hex grid. *UPP* is universal planetary profile. Codes under *bases* indicate naval and scout bases; A indicates both a naval and a scout base; B indicates both a naval base and a scout way station. At the far right margin, G indicates that the system has one or more gas giants; A indicates that the world is an amber travel zone; R indicates that the world is a red travel zone.

Xboat Routes: The heavy lines connecting several worlds are express boat routes providing communications between worlds of the Imperium. These routes are also common trade and transport routes with regular commercial transportation provided by one or more transport megacorporations. Service to locations not on these routes is less frequent and less dependable.

MAP LEGEND

Starport Type
Bases
World Type
World Name
X-Boat Route

Travel Zone *No Gas Giant*
Code (Red)

border

WORLD CHARACTERISTICS

- No Water Present
- Water Present
- Asteroid Belt

BASES

- ★ Imperial Naval Base
- ▲ Imperial Scout Base
- B Research Station
- ▲ Scout Way Station

TRAVEL ZONES

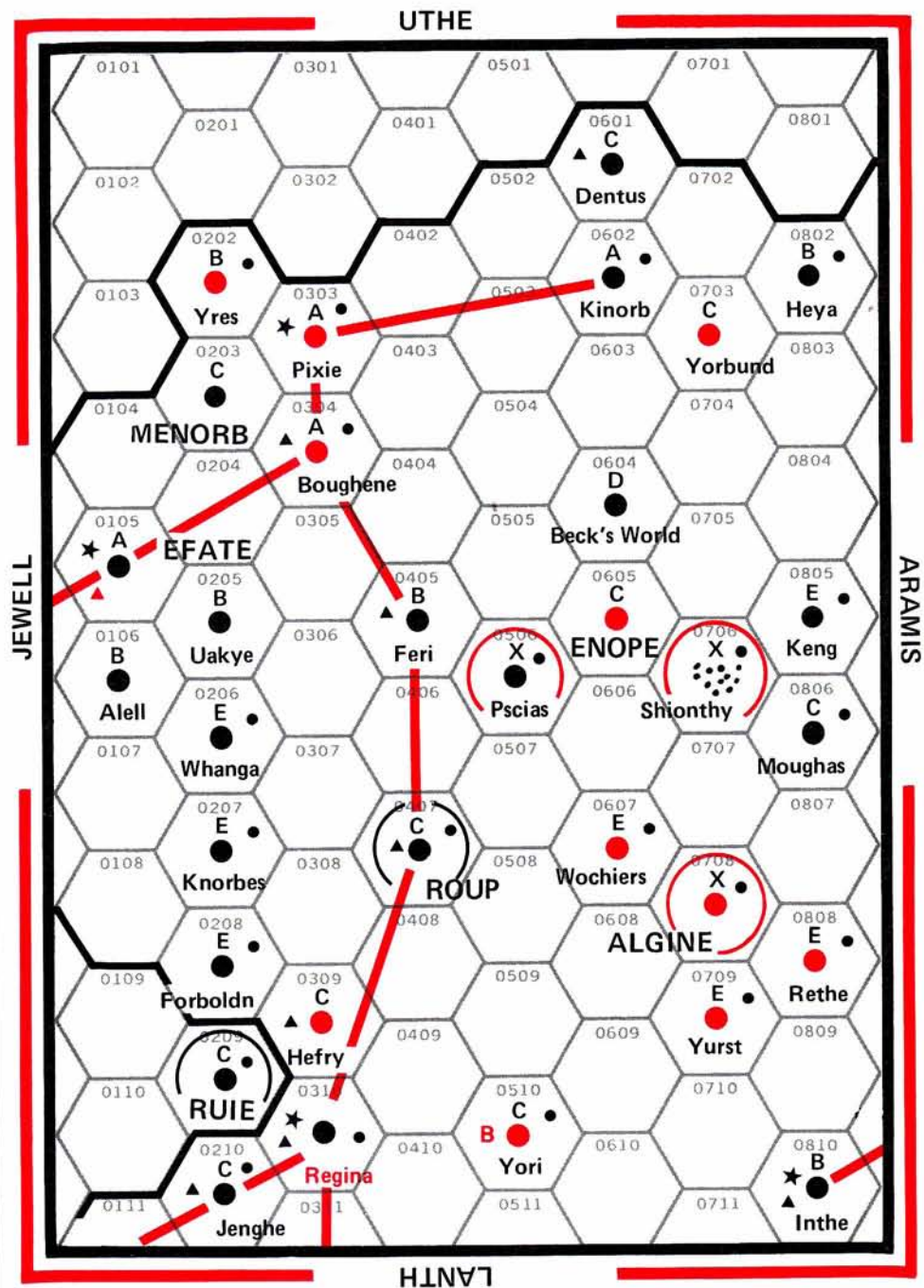
- Amber Zone
- Red Zone

POPULATION

Secundus under one billion

PRIMUS over one billion

World names in **red** are subsector capitals.



The Regina Subsector

Library Data

Library data entries represent information available from any ship's computer using the library program, in response to the correct keywords. The information may be desirable as background or supporting information for an adventure, as data to help players better understand the situations they are in, or as leads to help start new adventures. In general, the referee can look into library data any time the player characters indicate that they are researching a subject. In addition to directly relevant information, additional materials of interest may be revealed to them.

LIBRARY DATA ENTRIES

The following entries comprise library data.

Algine (0708 X766977-4): Red Zone. Interdicted by the Scout Service in order to protect its developing technological culture.

Astrography: The science of mapping interstellar space. Basic to any science of mapping is a coordinate system. The system used by the Imperium is based on rings of longitude, rays of latitude, and parsecs. Rays of latitude extend from the galactic core, while concentric rings of longitude are placed at one parsec intervals. By convention, the concentric ring passing through Reference/Capital is labeled the 10,000th ring, and is used as a baseline. Similarly, the ray of latitude extending from the center of the Galaxy through Reference/Capital is designated as the first ray. Measurement is in parsecs, counting in the trailing direction. Computation reveals that the circumference of the 10,000th ring ($r=10,000$) is 62,832 parsecs. Counting spinward uses a subtraction from 62,833, which is the equivalent of the zero baseline.

For example, Regina, of the Regina Subsector, in the Spinward Marches, is 9930 ring/ray 62723. The format for expression of location is xxxx ring/ray yyyyy, where xxxx is the ring of longitude (distance from the galactic core in parsecs), and yyyyy is the distance of the ray of latitude (in parsecs) from the first ray of latitude, measured along the ring of longitude in the trailing direction.

This mapping system is highly Imperio-centric, and other systems are used outside the Imperium. This system has gained wide acceptance, however, among Imperium dominated client-states, human and otherwise. This mapping system breaks down and is prone to error beyond certain limits. It does serve admirably for a band approximately 400 parsecs wide at a longitude of 10,000 parsecs.

Capital (Core Sector 0508 A586A98-F): Central world of the Imperium and seat of government since its founding. Situated in the center of the Imperium, Capital's astrographical position has proven of prime importance, as a communications hub, a cultural center, and an industrial focus.

Civil War (604 to 622): Fought between various factions within the Imperium for control of the bureaucracy. It had its origin in the strain on communications within the Imperium caused by the long lag times dictated by the very size of the Imperium. To cite one cause, however, would be simplistic. The diverse backgrounds of the many constituents of the Imperium had its effects, as did rivalry for

power by major naval and military commanders, and a lessening in the Imperium's expansionist tendencies.

The spark which started the Civil War was thrown off by the First Frontier War (589 to 604) in the Spinward Marches. Communications lags and a lack of preparedness forced the Marches to conduct most of the war on its own, with little additional help or support from the Imperium. After Grand Admiral of the Marches Olav hault-Plankwell forced the war to an end, he found solid support for a new government. Marching on the Capital with his war fleet, he forced an audience with Empress Jacqueline I, supposedly for recognition of his war effort. In the course of the meeting (in 606) he personally murdered the Empress, then proclaimed himself Emperor by right of fleet control. The ensuing power struggle lasted through eighteen years and eighteen emperors.

Client State: An independent political unit which has elected (or had forced upon it) the patronage of a larger political unit. This relationship is generally mutually beneficial, and is essentially commercial in nature. That is, the political or defensive ties which may be part of any patron-client relationship are ultimately intended to promote trade between the two.

Confederation: Group of independent states, worlds, or systems united for specified purposes, while generally retaining more freedom of action than the members of a federation. League. Alliance (especially of princes, nations, states, worlds, or systems).

Directions, Galactic: Conventions which have achieved widespread acceptance when referring to direction. Toward the galactic core is coreward; away from it, in the direction of the rim, is rimward. In the direction in which the galaxy is rotating is spinward, while the other direction is trailing.

These directions are in widespread use in describing Imperial features and businesses. For example, the Spinward Marches is a sector at the extreme spinward fringe of the Imperium; Rimward Lines is an important interstellar transport company.

Finally, within the Imperium, the term coreward is also used to indicate the direction of Capital, the Imperial core. There is some potential for confusion if the term is accepted out of context.

Dating Systems: Three major dating systems are in use when referring to historical events: Terran, Vilani, and Imperial.

Terran dates center on a year about midway through the period of Vilani ascendance. After that date, years ascend,

and are suffixed AD; before that date, years descend, and are suffixed BC. There is no year zero. Terran years have 365 days and are considered a standard for length of year. Years are further subdivided into months and weeks, although these divisions have fallen into disuse outside the Solomani Sphere.

Vilani dates count from the year of the establishment of the First (or Vilani) Imperium. Those before are suffixed PI (pre-Imperium), those after are suffixed VI (Vilani Imperium). There is no year zero. Vilani years are approximately 1.33 standard years in length. Vilani years are further divided into seasons, months, and weeks.

Imperial dates count from the year of the founding of the Third Imperium, specifying the year zero as a holiday year. Dates before that are negative; dates after that are positive, with the sign usually suppressed. Imperial dating uses a Julian system for specifying days. Each day in the year is consecutively numbered beginning with 001. Thus, in the year 1105, the first day of the year is 001-1105. Weeks of seven days and months of 28 days are used to refer to lengths of time, but rarely to establish dates.

Efate (0105 A646930-D): Spinward connection in the vital express boat route leading to Jewell subsector. Recently the site of continuing bitter anti-Imperial guerrilla activity.

Empire: Group of independent states, nations, worlds, or systems under the supreme rule of an emperor.

Express Boats: The primary means of interstellar communication is the physical transport of messages by a jump-capable ship. Within the Imperium, the method is called the express boat system. Small, fast, information carrying ships are specially constructed to make large jumps and carry data for retransmission. Outlying worlds of the Imperium stand nearly four years from the capital, and express boat links have been established to insure the rapid transmission of messages (governmental, commercial, and private) with a maximum of efficiency.

Selected locations along major trade routes are established as express stations; as orbital facilities which service and refuel xboats on their communications runs. As an xboat arrives in a system, it beams its recorded messages to the express station, which then retransmits them to an xboat standing by for a jump outsystem. Time between jumps is almost always less than four hours, and can be under seven minutes. The speed of communication is thus nearly the speed of jump (xboats are equipped with jump-4 drives, four parsecs per week). In practice, this speed is somewhat reduced as trade routes do not follow straight lines, and not all jumps are made at jump-4. Average speed approximates jump-2.6 per week.

Festival: Annual celebration staged on the world of Rethe (0808 E230AA8-8). Originally a reaction to the restrictive government considered necessary for survival on Rethe, the three day holiday period has continued as a carefree celebration where citizens release the tension that has built up during the preceding year. All laws are suspended (local law level becomes 0) during the festivities. Some abuses have always been present, but the population has resisted any effort to change the conditions of their favorite holiday.

The Travellers' Aid Society classifies Rethe as an amber zone during the period of Festival.

Federation: Group of states, worlds, or systems, each internally independent, joined into a union to which has been surrendered certain rights and responsibilities, most generally to do with foreign affairs.

First Imperium (-4045 to -2219): The first major interstellar civilization, politically and culturally dominated by humans originating on Vland. The jump drive was discovered on Vland in -9235. Immediately the Vilani discovered a number of interfertile and technologically primitive human races on worlds within 60 parsecs. These were gradually brought to a high-technology state with Vilani help, and assimilated into a loose interstellar community bound by trade and common culture. Eventually, the client races themselves explored beyond the local sphere, contacting and trading with still more races. These new races gained their technology without being assimilated into Vilani culture; the resulting cultural friction eventually precipitated a series of wars, beginning about -5400. In response to the threat, Vland began tightening its control of its trade sphere, finally organizing it into a centralized state in -5273. This marked the beginning of the First Imperium, although there was as yet no emperor. During the thousand year period of the Consolidation Wars, Vland conquered and absorbed its enemies until there were no longer any civilized states on its borders (except for a portion of the Vargr Extents, isolated from the Imperium by the Great Rift). The last war ended in -4045, and Vilani dating begins at this point. With no exterior threats, the Pax Vilanica lasted for nearly 1200 years; at its height, attained soon after the end of the wars, the First Imperium contained 27 sectors and over 15,000 worlds. However, the cost of maintaining centralized control over this vast expanse was cultural rigidity; exploration had ceased with the beginning of the wars; now scientific research slowed to a halt, and the beginnings of a hereditary caste system began to emerge. Civilization was in decline. As long as there was no exterior threat, the Imperium was safe; but gradually, despite all efforts, technology leaked across the borders. New interstellar states arose, and the Imperium could no longer afford to absorb them. Gradually, the Imperium lost territory along its coreward and trailing marches. Then, in -2422, the Imperium was contacted along its rimward border by the Terrans, recently emerged into space. Terran expansionism led to a series of interstellar wars, ultimately resulting in Terran conquest of the Imperium in -2219 and the founding of the Rule of Man.

The First Imperium bore many names in its long life, including the Grand Imperium of Stars, the Grand Imperium, and the Vilani Empire.

Forboldn (0208 E893614-4): Primary colonization project within the Regina subsector. Originally conceived in 987 to utilize the resources of Forboldn, the project began its execution phase in 1089. Large numbers of colonists were recruited and shipped in cold sleep from the Imperial core, with arrival times set from 1110 to 1120. Simultaneous preparations on Forboldn began, with detailed planetary surveys to pinpoint resources and initial building projects to prepare industry and quarters for the arrival of

colonists.

An interesting aspect of such colonization projects is the recruitment methods used to supply personnel. Since virtually no amount of money will entice an individual to leave his home and livelihood for the bleak desolation of a colony world, the Ministry of Colonization has established several programs to produce colonists. Most obvious is the colonize in lieu of prison term program. However, several other programs have also shown signs of success. In the unemployment insurance program, high population worlds have successfully used the colonization project as a means of reducing unemployment over the long term. In a similar medical insurance program, indigents unable to obtain medical treatment are provided with their needs in exchange for signing on to a colony. A colony's needs for skills are met through the anagathics program; qualified (and aged) individuals can be provided with anagathics to extend their lifespans in return for their providing such skills as administration, mechanical and electronic, and medical. Finally, a land grant program has provided a cadre of retiring veterans to supplement the new colony's military and police forces.

Frontier Wars: A series of interstellar wars waged between the Imperium and the Zhodani Consulate for control of the Spinward Marches. The four wars (so far) represent open flares of conflict in a constant struggle for supremacy.

Heya (0802 B687745-5): Rich, agricultural world in the backwaters of the Regina subsector.

Holiday Year: The year zero in the history of the Third Imperium, established by Cleon I to commemorate the establishment of the Imperium. Technically an aspect of calendar reform, the use of the year zero provides a central date point for counting years back into the Long Night and forward into the future of the Imperium. The actual advantages of a holiday year are slight: centuries begin in the hundredth numbered year instead of the first numbered year, and the number of years between any two dates can be determined by subtraction.

More importantly at the time, the holiday year was used as part of the public relations campaigns which were impressing the authority of the Imperium upon local governments. The minor requirement of changing to the new calendar was used to determine cooperation by those governments.

Humaniti (former spelling Humanity): Collective name for all of the human races, including Solomani, Vilani, Zhodani, and others. See Humans.

Humans: Intelligent major race dominating the Imperium and several additional interstellar communities. Humans stand approximately 1.8 meters in height and weigh about 100 kilograms. Descended from omnivore gatherers, humans developed intelligence in response to shifting climatological factors.

The most unusual aspect of humaniti is the fact that humans are present on many different worlds and stand at various levels of development on those worlds. The Solomani Hypothesis states that Humans evolved on Terra (Sol subsector) and were scattered to many different worlds for reasons currently unknown. The result is that many different, parallel human races exist, and coexist throughout

known space.

The three most widespread human races are the Solomani (humans from Terra), the Vilani (humans from Vland), and the Zhodani (humans from Zhodane).

Interdiction: The Imperial practice of interdiction of worlds within the boundaries of the Imperium had long been a source of contention between liberal and conservative factions in the government. Interdictions must be approved by a member of the Imperial family, but generally such approval is given in response to a request from an interested service, almost always the Scouts or the Navy.

It is generally held that the Scouts recommend interdiction to shield a young or sensitive culture from the interference that trade and commerce will bring. The Navy is held to be more vindictive in its recommendations, using interdiction to punish local governments or to hide its own mistakes.

Interdicted worlds are awarded travel zone red ratings by the Travellers' Aid Society.

Ling-Standard Products: Originally a mining firm (and still very active in that field), LSP currently is engaged in a wide spectrum of activities including the manufacture of electronic equipment of all sorts, ground and air vehicles, starships and starship armaments, drive systems, power systems, computers and software, small arms, and a variety of consumer goods. Concerned to a small degree with banking, insurance, and stockbrokerage, LSP maintains mining and manufacturing facilities throughout the Imperium.

Megacorporation: Large scale stock company with activities spanning the entire Imperium, as contrasted with most companies which rarely extend their markets beyond a single sector.

Menorb (0203 C652998-7): Poor world on the fringe of the Imperium.

Naasirka: Vilani megacorporation of uncertain lineage. Tradition has it that Naasirka was one of several quasi-official bureaus within the First Imperium, controlling under Imperial monopoly large portions of the electronics and software market. Naasirka is the largest single supplier of communications equipment to the Scout Service's xboat branch. Other product lines for the corporation include small craft, electronics, computers, and anti-grav modules.

Naval Base: Port facility for the support, maintenance, repair, and refit of naval vessels. Planetary surface facilities are generally provided for ships of 1,000 tons or less; orbital facilities handle larger ships.

Oberlindes Lines: Interstellar corporation established in 1084 with a general purpose of trade and commerce. Oberlindes is one of the major shipping lines within the Regina subsector, with feeder routes to all major starports. The company's expansion into neighboring subsectors has improved star service, but alienated many of the older, more conservative lines.

Sergei hault-Oberlindes, patriarch and controller of the line, was awarded a baronial patent, complete with estates on Feri (Feri/Regina 0405-B384879-B), by direction of the Emperor in 1101 for his contribution to the economic recovery in the Marches following the Fourth Frontier War.

Octagon Society: Established in 342, the Octagon

Society was the first major distressed spacefarer assistance operation to appear in the Spinward Marches. The group thrived on public contributions and some tax revenues for 150 years; it collapsed in the late 400's when scandals emerged over the quality of shelter construction and the disposition of certain funds.

Society shelters were generally of an octagonal shape. Large hostels were established on major worlds, while smaller weather shelters were placed on frontier or unsettled worlds. The characteristic octagon shaped buildings are still visible on various worlds, although none are still in use as shelters for distressed spacefarers.

The Octagon Society was dissolved in 499 and its assets were sold at auction.

Pscias (0508 X355423-1): Red Zone. Interdicted by the Navy for reasons unknown.

Pyramids: Traditional form of construction for developing cultures; considered to be the simplest form of large scale architecture because of its load-bearing strength and ease of assembly. Tech level 1.

Pyramid structures of all sizes have been believed to serve as focuses for psionic (or cosmic) power, and are claimed to sharpen dulled edges, cure diseases, and generally work miracles.

Pyramids have been constructed on most worlds where the local culture has passed through tech level 1. Many examples remain due to the massive strength of the structure.

Regina (0310 A788899-A): Rich world serving as the capital for the Regina subsector.

Regina Subsector: Subsector C of the Spinward Marches. Contains 32 worlds with a total population of 60.1 billion.

Research Station: The scattered worlds of the Imperium manifest a wide range of technological levels: this diversity is maintained by the distances between worlds, the high cost of transportation, and the relative independence allowed to worlds within the Imperium.

Nevertheless, the Imperium itself is constantly involved with research projects at the forefronts of technology. While some new technology can be purchased from advanced cultures beyond the Imperial boundaries, such high technology is expensive, and still requires a solid technological foundation to allow its usage. Consider: however useful solid-state chip circuits are, they still require a firm grounding in electronics, and cannot be used on a large scale without electronics, individual solid-state chip components, photo processing, and even crystal culture. It is vital that the Imperium pass through many stages of technological development on the way to achievement in higher tech level areas.

Imperial technological research is performed in two ways: under contract by corporations, or in established Imperial Research Stations. The difference is that the corporate (or privately financed) research is directed at specific practical uses, while Imperial projects are breaking new ground on the forefronts of knowledge.

Private Research: On a scale as vast as the Imperium, it is often cheaper to duplicate research rather than search out and contract for technology somewhere in the Imperium. Trade between different worlds often disseminates know-

ledge and certain technologically advanced items throughout the community of worlds. If a certain item proves useful, local companies will try to achieve the same technology, and soon enter into local manufacture. Local manufacture takes into account local preferences, as well as providing local employment. It also avoids potential problems with licensing arrangements.

Imperial Research: The Imperium finances research into a variety of areas in the forefront of knowledge. Often this is an attempt to duplicate technology observed or reported in neighboring cultures and not yet within the ability of Imperial science. Such research stations are sited in areas which need the boost to the local economy, or in remote areas far from the potential disturbance of Imperial politics. Many different stations may be working in the same region, and many different areas of knowledge may be under investigation at one time. In general, one station will be constructed for one purpose, and continue in that area of knowledge for its entire span of usefulness. Its size, personnel roster, power plant capacity, and even visibility profile, are dependent on its area of investigation.

Imperial research may delve into many areas. Some examples include black hole research, both large-scale and mini-black hole investigation, instantaneous transmitter development (so far proving impossible), advanced gravity manipulation, genetic manipulation, anti-matter containment, weaponry research, disintegrator beams, black globe development, deep planetary core soundings, nova prevention (and prediction), psychohistory, mass population behavior prediction, psionics, stable superheavy elements, deep radar analysis, long-range detection systems, robotics, artificial intelligence, stasis and time travel, so-called magic, cryptography, bionics, personal shields, x-ray lasers, and high temperature superconductors.

Roup (0407 C77A9A9-6): Amber Zone. Waterworld situated on the express boat route from Regina to Efate. Its population of 3.4 billion is concentrated on the peaks of a few underwater mountains, the only dry land on the world. Real food (as opposed to the local concentrates made from fish) is highly prized by the population.

Rethe (0808 E230AA8-8): Poor, non-agricultural, desert world. Best known for its annual Festival.

Ruie (0209 C776977-7): Amber Zone. Balkanized, industrialized autonomous world just beyond the Imperial border. Amber zone classification posted because of antipathy against the Imperium and Imperials by some nations on the world.

Rule of Man (-2204 to -1776): Upon the conquest of the Vilani Imperium by the Terran Confederation, the Terrans moved to establish government of the region. At first, conquered regions came under the administration of the navy, under martial law. Much use was made of the existing bureaucracy and former Vilani administrators, with naval officers in scattered key posts. When the Confederation civilian government attempted to transfer control directly to Earth, the navy refused. From his headquarters on Dingir, the commander in chief of the fleet, Admiral Hiroshi Estigarribia, proclaimed himself Regent of the Vilani Imperium and Protector of Terra, with both states now united in the Rule of Man. Nearly all

the fleet instantly sided with him, evidence of his careful preparation, and the Confederation Secretariat was dissolved in a bloodless capitulation. Estigarribia never actually assumed the crown, but after his death he was succeeded by his former chief of staff, who was crowned as Hiroshi II. Estigarribia is therefore known to history as the Emperor Hiroshi I.

Ultimately, the task of ruling the vast expanses of the Rule of Man proved impossible. The Rule of Man continued to exist for four hundred years, constantly trying (and failing) to stem the decay of the First Imperium's rule.

The Rule of Man is also known as the Second Imperium or (disparagingly) as the Ramshackle Empire.

Scout Base: Port facility for the support and maintenance of Scout Service vessels.

Second Imperium: See Rule of Man.

Sector: A mapping unit in astrology, equal to sixteen subsectors (four wide and four deep). Sectors are broad measures of area, and are often used for rough representations of relative size between interstellar empires. Average density: 480 to 640 worlds.

Sectors are also called marches or regions. The Spinward Marches are an example of a sector.

Shionthy (0706 X000742-8): Red Zone. Asteroid belt interdicted by Navy because of its extreme danger to navigation.

Solomani: One of three major human races within the known galaxy. The term Solomani has several possible derivations, including men of Sol, the only men, or the true men.

Solomani Hypothesis: A generally accepted theory that all Humaniti originated on Terra, and that all other native human races arise from stock transported there by the Ancients. The theory explains the large number of independent human races within the Imperium without requiring a farfetched concept of "parallel evolution".

Spinward Main: Within the Spinward Marches, a group of worlds, planets, and systems each within jump-1 of another. Together, this grouping (called the Spinward Main) forms a corridor of jump points which allow simple jump-1 ships to travel to 15 of the 16 subsectors within the Spinward Marches, and to 223 of the sector's 431 worlds. The Spinward Main has a cul-de-sac branch which enters Regina subsector at Jenghe and extends as far as Efate.

Spinward Marches: Imperial border sector extremely spinward of Capital. Currently a frontier area undergoing exploration and development.

Strephon: Current reigning emperor of the Third Imperium. Oldest surviving issue of Paulo III. Born 1049, proclaimed emperor 1071.

Subsector: A mapping unit in astrology, consisting of a rectangular area ten parsecs by eight parsecs. Subsectors are also called districts, provinces, or clusters. Average density: 30 to 40 worlds.

Third Imperium: Interstellar empire founded by Cleon I in the holiday year 0.

Tukera Lines: Imperium-spanning megacorporation providing interstellar transport of cargo and passengers. Tukera concentrates on the established express boat routes, and provides jump-3 or jump-4 service along the same

lines. In some subsectors (especially the older, more established regions of the Imperium) Tukera has a virtual monopoly on long-distance interstellar transport.

Twilight's Peak: Legendary or apocryphal story of lost spacefarers on an unknown world who discovered fantastic structures and devices while surviving a terrifying winter. Phrased as an epic poem of execrable quality, the story is most notable only in that it is based on fact — a task force was lost in the time period specified, and it has not been recovered or accounted for.

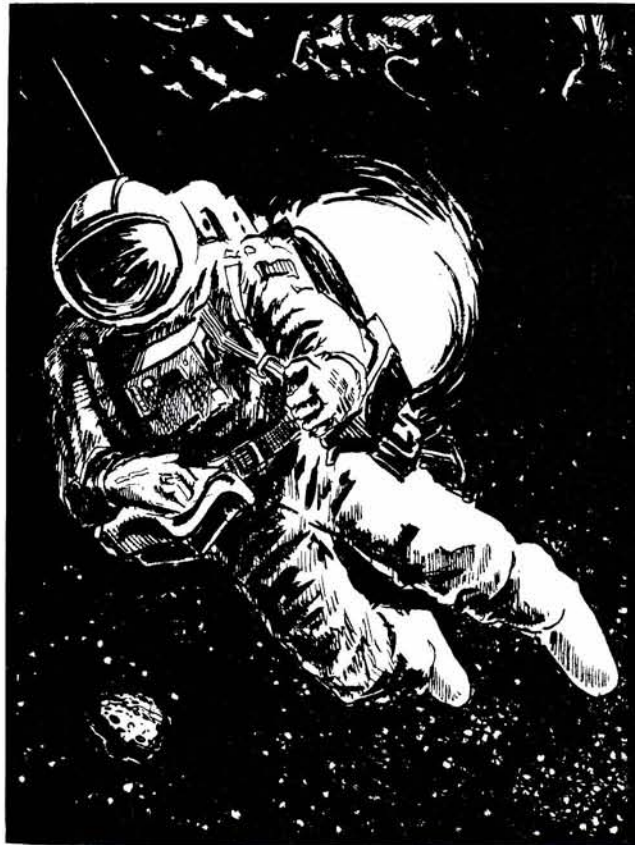
Vilani: One of three major human races within the known galaxy. Vilani originated on Vland and formed the First Imperium which dominated interstellar relations for several thousand years.

Way Station: Express boat repair and maintenance facility operated by the Scout Service. In some ways equivalent to naval bases, way stations have a peacetime mission of refit and overhaul of express boats. In war, they serve as naval bases.

Yori (0510 C360757-D): Desert world. The site of Imperial Research Station Beta (one of seven situated in the Spinward Marches).

Zhodani: One of three major human races within the known galaxy. Zhodani inhabit the Zhodani Consulate, a large and growing interstellar empire spinward of the Imperium. Clashes and conflicts between the Imperium and the Zhodani have continued for the last six hundred years.

A major source of conflict with the Zhodani is their acceptance and practice of psionics; all Zhodani of noble birth (social standing A or greater) receive psionic training as a matter of course.



Pre-Generated Characters

Characters are always in demand in **Traveller**. The players can generate them as they need them: when they begin an adventure, when the current character dies, or at any other time. The referee, however, has a constant need for non-player characters as patrons, casual or random encounters, hirelings, thugs or assailants, and so on.

This list of pre-generated characters is intended to fill the referee's requirement for characters (especially patrons) on the spur of the moment. Each has been generated in accordance with the character generation rules, and is ready for use. They are numbered consecutively, and the referee may select any specific character that meets the required purpose. The list of thugs and brigands fulfils the need for easily available but less fully defined characters.

CHARACTER LIST

The following characters have been randomly pre-generated using the character generation sequence.

1. Navy Lieutenant Commander 556B6A Age 34
4 terms Cr0
Electronics-1, Engineering-2, Gunnery-1,
Jack of all Trades-1, Ship's Boat-1, Sword-1.
1 High Passage
2. Marine 95C689 Age 26
2 terms Cr0
Automatic Pistol-1, Cutlass-2
1 High Passage
3. Army Major 7C67A8 Age 26
2 terms Cr0
Submachinegun-3, Rifle-1, Administration-1,
Electronics-1, Tactics-1.
1 High Passage, 1 Submachinegun.
4. Scout 43BCF7 Age 44
6.5 terms Cr20,000
Carbine-1, Electronics-3, Gunnery-1,
Jack of all Trades-1, Mechanical-3, Navigation-1,
Pilot-1.
Scout Ship
5. Merchant 3rd Officer 8A58A5 Age 46
7 terms Cr10,000
Auto Rifle-1, Administration-1, Computer-1,
Engineering-1, Jack of all Trades-1, Mechanical-1,
Medical-1, Navigation-1, Hovercraft-1.
1 Low Passage, 1 Auto Rifle.
6. Other 945985 Age 40
5.5 terms Cr25,000
Brawling-3, Streetwise-1.
1 High Passage.
7. Marine Force Commander 66B488 Age 46
7 terms Cr10,000
Revolver-5, Gambling-3, Brawling-1, Cutlass-1,
Vacc Suit-1, Leader-1.
Travellers' Aid Society, 1 Revolver, 5 High Passages.
8. Navy 8648AA Age 38
5 terms Cr20,000
Engineering-4, Forward Observer-1, Blade-1.
Travellers' Aid Society, 1 Blade, 1 High Passage.
9. Merchant 1st Officer 84AA76 Age 42
6 terms Cr80,000
Pilot-4, Navigation-3, Computer-4, Carbine-1.

THUGS, BRIGANDS, AND ASSAILANTS

The following list of thugs, brigands, and assailants is intended for use by the referee when any band of ruffians is necessary. Any number may be taken from the list on the spur of the moment.

Each is assumed to have weapon skill-1 in any weapons carried; the specific weapons should be determined by local law level and technology level. The credit amount indicates how much the character has on his or her person.

Police Enforcers: It is also possible to use this list to provide police enforcers if local law level calls for harassment.

- | | | | | |
|---------------|--------|--------|---------|-------|
| 1. Thug | 95C498 | Age 26 | 2 terms | Cr50 |
| 2. Thug | 876362 | Age 30 | 3 terms | Cr75 |
| 3. Thug | 677356 | Age 22 | 1 term | Cr80 |
| 4. Thug | 57C7B7 | Age 30 | 3 terms | Cr20 |
| 5. Thug | B66496 | Age 22 | 1 term | Cr100 |
| 6. Thug | 4B7769 | Age 26 | 2 terms | Cr40 |
| 7. Thug | 948B86 | Age 34 | 4 terms | Cr170 |
| 8. Thug | 448568 | Age 30 | 3 terms | Cr30 |
| 9. Thug | 79BB63 | Age 22 | 1 term | Cr60 |
| 10. Thug | AB8833 | Age 26 | 2 terms | Cr200 |
| 11. Brigand | 5983AA | Age 26 | 2 terms | Cr400 |
| 12. Brigand | 639B43 | Age 30 | 3 terms | Cr10 |
| 13. Brigand | C44465 | Age 26 | 2 terms | Cr50 |
| 14. Brigand | 898976 | Age 22 | 1 term | Cr100 |
| 15. Brigand | 89B567 | Age 30 | 3 terms | Cr40 |
| 16. Brigand | 8A7694 | Age 30 | 3 terms | Cr400 |
| 17. Brigand | 16B567 | Age 42 | 6 terms | Cr900 |
| 18. Brigand | 848976 | Age 38 | 5 terms | Cr10 |
| 19. Brigand | 37A687 | Age 34 | 4 terms | Cr40 |
| 20. Brigand | C88874 | Age 30 | 3 terms | Cr130 |
| 21. Assailant | 39B584 | Age 26 | 2 terms | Cr100 |
| 22. Assailant | AAA337 | Age 22 | 1 term | Cr20 |
| 23. Assailant | 8B8765 | Age 30 | 3 terms | Cr300 |
| 24. Assailant | 98C675 | Age 26 | 2 terms | Cr20 |
| 25. Assailant | C4C879 | Age 30 | 3 terms | Cr50 |
| 26. Assailant | 798699 | Age 26 | 2 terms | Cr40 |
| 27. Assailant | 478676 | Age 22 | 1 term | Cr90 |
| 28. Assailant | 342876 | Age 38 | 5 terms | Cr600 |
| 29. Assailant | 573335 | Age 34 | 4 terms | Cr450 |
| 30. Assailant | 6AB576 | Age 26 | 2 terms | Cr300 |
| 31. Assailant | 786988 | Age 30 | 3 terms | Cr400 |
| 32. Assailant | CBA678 | Age 30 | 3 terms | Cr110 |
| 33. Assailant | 335654 | Age 22 | 1 term | Cr30 |

Animal Encounter Tables

Animal encounter tables can be generated for all types of worlds using the rules provided in the chapter on animal encounters. Because of the time involved in generating such tables, they must be produced before an adventure session begins or the group will become hopelessly frustrated waiting for the referee to complete this particular task. The following set of animal encounter tables have been generated for use with Heya (B687745-5) and the amber zone scenario on page 129.

These tables each include one event. If the tables are used enough times to warrant additional events, they may be created by the referee or chosen from the various events described in Animal Encounters.

Alternate Uses: These tables can be used equally well with any world having a size of 5, 6 or 7, and a dense (type 8 or 9) atmosphere.

PRAIRIE Terrain

Heya 0802 B687745-5 (7+)

Die	Animal Type	Weight	Hits	Armor	Wounds & Weapons	
2	1 Hijacker	12kg	7/ 6	none	6 claws and teeth	A6 F5 S2
3	4 Flying Hunters	6kg	5/ 9	none	5 teeth+1	A6 F8 S2
4	5 Intimidators	6kg	4/10	mesh+1	2 claws	A7 F6 S2
5	1 Gatherer	800kg	22/ 8	jack	24 hooves and horns	A7 F4 S2
6	23 Grazers	400kg	15/ 5	none	15 thrasher	F5 A8 S2
7	20 Grazers	50kg	14/ 7	none	5 hooves and horns	F4 A4 S3
8	4 Flying Grazers	3kg	3/ 6	none	4 claws and teeth	F4 A8 S4
9	1 Chaser	400kg	27/ 5	jack	8 claws	A0 F9 S3
10	Event— Lair. The party comes upon a large burrow in which are five immature chasers. They are not dangerous, but if the party remains in the area for more than a few minutes, the family will return (use encounter number 11).					
11	6 Chasers	800kg	48/20	mesh	19 claws+1 and teeth+1	A8 F7 S3
12	1 Killer	400kg	30/10	none	10 claws+1 and teeth+1	A5 F7 S3

ROUGH Terrain

Heya 0802 B687745-5 (8+)

Die	Animal Type	Weight	Hits	Armor	Wounds & Weapons	
2	3 Intimidators	200kg	25/12	jack	5 thrasher	A6 F3 S2
3	11 Flying Eaters	200kg	22/10	none	21 stinger	A5 F7 S3
4	16 Reducers	3kg	5/ 4	none	7 hooves and teeth	A7 F7 S2
5	9 Eaters	200kg	17/11	none	10 claws and teeth	A6 F5 S2
6	4 Grazers	25kg	11/ 4	none	9 hooves and teeth	F4 A5 S2
7	5 Intermittents	50kg	12/ 8	none	4 teeth	F5 A4 S2
8	1 Grazer	100kg	22/ 7	jack	9 hooves	F4 A6 S3
9	1 Killer	100kg	18/ 8	none	15 stinger	A1 F4 S3
10	Event— Wirebushes. An area filled with low bushes. Their branches are very tough, and if the party tries to proceed, their vehicles will become entangled, requiring 2D man-hours to free. Bypassing the area adds 4D hours to travel time.					
11	1 Pouncer	25kg	8/ 7	jack	5 claws+1	A0 F0 S2
12	1 Pouncer	50kg	10/ 7	none	7 claws+1 and teeth+1	A0 F0 S2

JUNGLE Terrain

Heya 0802 B687745-5 (8+)

Die	Animal Type	Weight	Hits	Armor	Wounds & Weapons	
2	3 Reducers	1kg	6/ 0	jack	1 thrasher	A5 F8 S2
3	1 Eater	3kg	4/ 5	none	1 teeth	A5 F4 S3
4	1 Reducer	200kg	20/ 8	none	15 claws and teeth	A4 F5 S1
5	1 Flying Gatherer	6kg	5/ 4	none	6 thrasher	A7 F7 S4
6	1 Flying Intermittent	6kg	6/ 3	none	4 hooves and teeth	F6 A4 S3
7	1 Filter	400kg	29/ 8	none	11 teeth	F0 A0 S0
8	1 Filter	200kg	17/ 5	none	12 teeth	F0 A0 S0
9	1 Pouncer	12kg	8/ 5	none	6 as pike	A0 F0 S2
10	Event— Dense Fog. The party encounters a low area filled with dense fog. Visibility is reduced to medium range, and safe travel is reduced to half speed.					
11	2 Killers	6kg	4/ 3	none	8 teeth+1	A2 F5 S3
12	2 Flying Killers	12kg	8/ 5	none	7 teeth+1	A6 F5 S4

The Traveller Series

There is more to **Traveller** than just **The Traveller Book**. Beyond the essential rules in this volume, there is a wealth of additional material for both players and referees. Additional materials for **Traveller** are categorized as books (containing rules), supplements (containing background or pre-generated material), adventures (containing scenarios and situations), and games (generally presenting specific situations for two or more players). *The Journal of the Travellers' Aid Society* is a quarterly magazine devoted to **Traveller**, with annual anthologies to keep the best articles in print.

Other hardcover volumes in the **Traveller** series — some now available, others in the works — include **The Traveller Adventure**, **The Traveller Starfleets**, **The Traveller Campaign**, and more. Hardcover volumes are a blend of new and previously published rules, supplements, and adventures.

TRAVELLER STARTER SETS

Essential to any **Traveller** game are the basic rules.

Basic Traveller includes essentially the same material as **The Traveller Book**, but in three 48-page booklets.

Deluxe Traveller contains the three books of **Basic Traveller**, plus Book 0, *An Introduction to Traveller*; Introductory Adventure, *The Imperial Fringe*; and a large map of the Spinward Marches.

The Traveller Book (this volume) contains the three books of **Basic Traveller**, plus additional adventuring material.

Players unfamiliar with role-playing or **Traveller** should begin with **Deluxe Traveller** or **The Traveller Book**. **Basic Traveller** is for players already into role-playing, or with experienced friends to help them.

BOOKS

Books present additional rules on specific subjects, expanding on **Traveller's** basic concepts. Each may be used independently, but all require one of the starter sets.

Book 0, *An Introduction to Traveller*.

Book 4, *Mercenary*.

Book 5, *High Guard*.

SUPPLEMENTS

Traveller supplements provide many different types of data, including starships, star systems, characters, and animals in pre-generated form. They may be used independently, but all require one of the starter sets.

Supplement 1, *1001 Characters*.

Supplement 2, *Animal Encounters*.

Supplement 3, *The Spinward Marches*.

Supplement 4, *Citizens of the Imperium*.

Supplement 5, *Lightning Class Cruisers*. (Included in *Azhanti High Lightning*, and not available separately.)

Supplement 6, *76 Patrons*.

Supplement 7, *Traders and Gunboats*.

Supplement 8, *Library Data (A-M)*.

Supplement 9, *Fighting Ships*.

Supplement 10, *The Solomani Rim*.

Supplement 11, *Library Data (N-Z)*.

ADVENTURES

These booklets provide exciting scenarios for sessions of **Traveller**. Most require only a starter set. Double adventures include two shorter adventures bound back-to-back.

Adventure 1, *The Kinunir*.

Adventure 2, *Research Station Gamma*.

Adventure 3, *Twilight's Peak*.

Adventure 4, *Leviathan*.

Adventure 5, *Trillion Credit Squadron*.

Adventure 6, *Expedition to Zhodane*.

Adventure 7, *Broadsword*.

Adventure 8, *Prison Planet*.

Double Adventure 1, *Shadows/Annic Nova*.

Double Adventure 2, *Mission on Mithril/Bright Face*.

Double Adventure 3, *Argon Gambit/Death Station*.

Double Adventure 4, *Marooned/Marooned Alone*.

Double Adventure 5, *The Chamax Plague/Horde*.

GAMES

Traveller boardgames use maps, counters, and detailed rules to translate important parts of **Traveller** to a more traditional game format. Where referees are not available, these games for two or more players allow the adventure of **Traveller** to continue.

Game 1, *Mayday*. Ship to ship combat.

Game 2, *Snapshot*. Personal combat aboard starships.

Game 3, *Azhanti High Lightning*. Deck plans for a 60,000 ton cruiser and scenarios for myriad situations.

Game 4, *Fifth Frontier War*. An entire interstellar war.

Game 5, *Invasion: Earth*. The final battle of the Solomani Rim War, as the Imperium invades Earth.

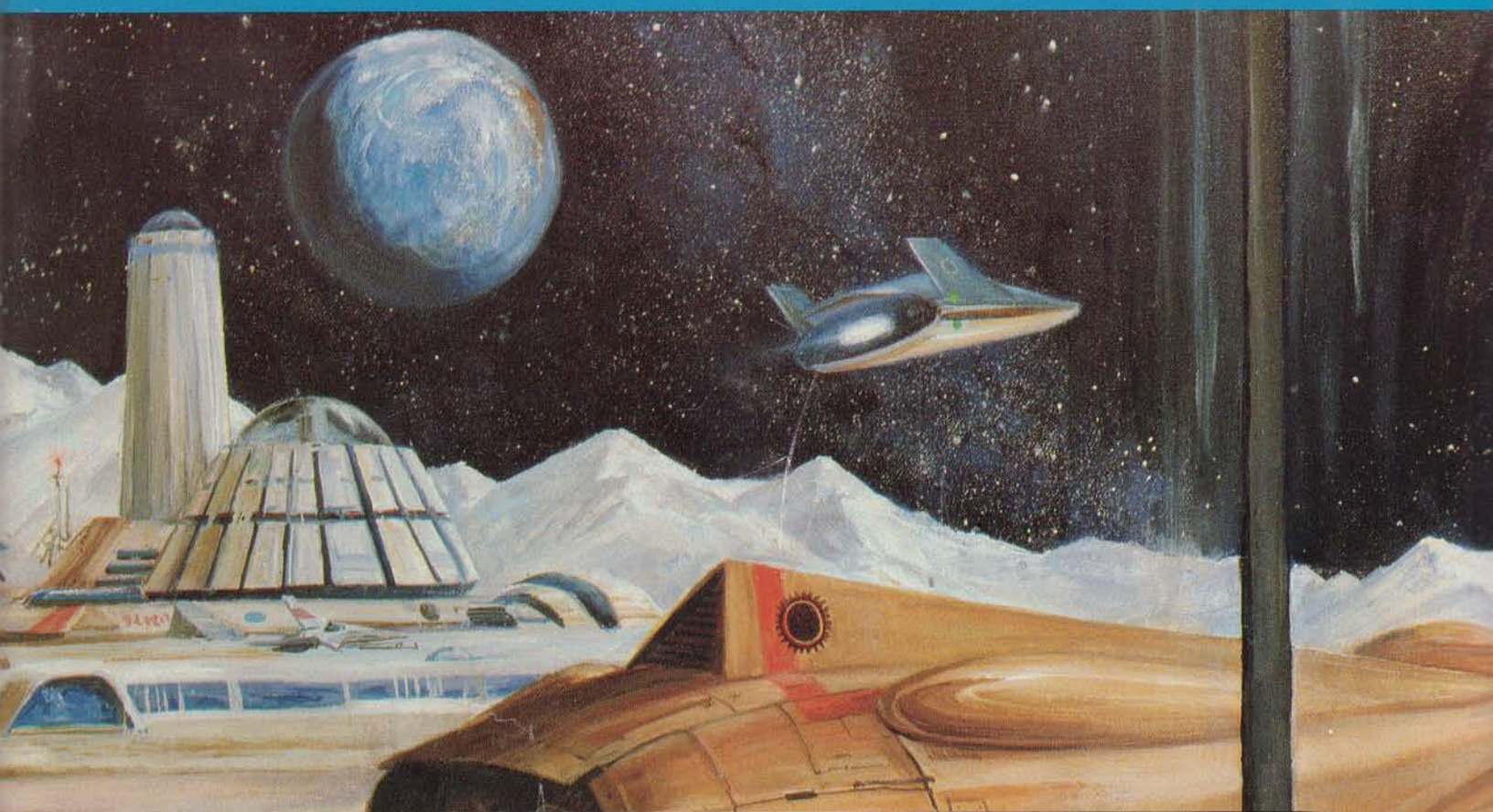
Striker. Rules for tank and infantry battles using 15mm **Traveller** vehicles and figures.

THE JOURNAL OF THE TRAVELLERS' AID SOCIETY

A quarterly magazine dedicated to **Traveller** role-playing and filled with articles on equipment and organizations, scenarios, background, animal data, notes on new products, and special features. 48 pages. Subscriptions available.

Best of the Journal, Volume 1. Anthology of issues 1-4.

Best of the Journal, Volume 2. Anthology of issues 5-8.



201

The Traveller Book

TRAVELLER
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The future described in *The Traveller Book* is a time of bold explorers and brave adventurers. The rules for role-playing presented in *The Traveller Book* allow readers to assume the identities of these explorers and adventurers.

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This book contains everything needed to play Traveller, except paper, pencil, and two six-sided dice.