

# 2300™

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J. Andrew Keith

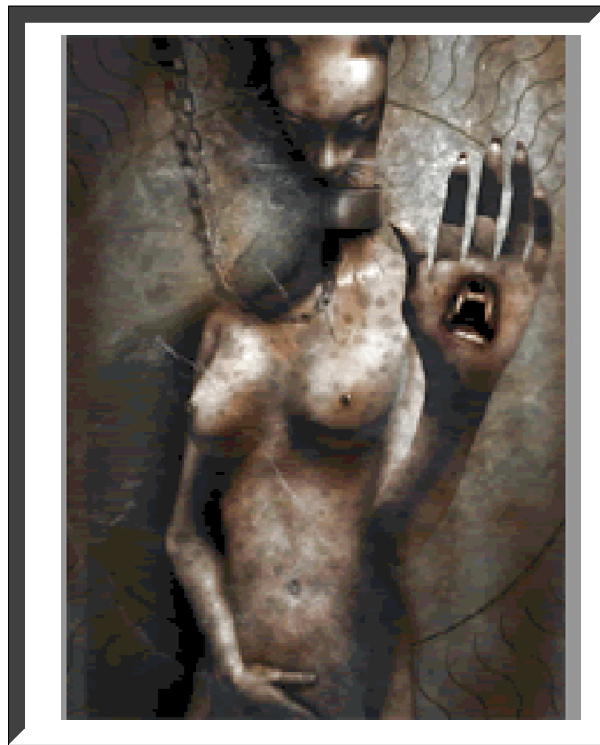
## NyOTEKUNDU SOURCEBOOK



*Mining outposts in a deadly star system.*

Game Designers' Workshop

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Hunger...

# 2300

## NyOTEKUNDU

### SOURCEBOOK

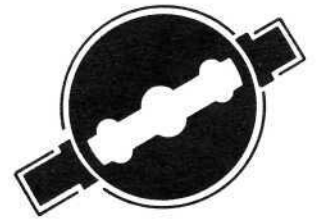
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# Introduction

*A century and a half of travelling in interstellar space had made us cocky. Sure, there were problems out there we had to face from time to time, but let's face it: we'd never met a challenge humankind couldn't overcome...not even nuclear war. Nyotekundu was proof of just how good we were—outposts processing ores on the most hellacious planet in known space, and a big behemoth of a mining station with twenty people aboard keeping the whole thing going without half trying. We were smug, a/l right. Until we ran into something no one understood. Then we found out just how much damage overconfidence can do.*

## INTRODUCTION

The *Nyotekundu Sourcebook* is a module designed for use with **Traveller: 2300**, Game Designers' Workshop's game of science-fiction role playing in the 24th century.

This book presents information about the Nyotekundu stellar system (from Earth, the first stop along the French Arm of explored space), including such things as:

- An explanation of the system's importance in the history of humanity's exploration of the stars.

- A physical description of the system's red dwarf star and its two main planets: Cocito and Inferno.

- A planetary map of Inferno.

- Descriptions and diagrams of humanity's outposts in the system (including sample shops, businesses, and meeting places), as well as descriptions of many of the people who live and work there.

- Explanations of what life is like for the inhabitants of the Nyotekundu system, including adventure suggestions.

- Echoes of the Past*, a major adventure on the station which mines Cocito's rings.

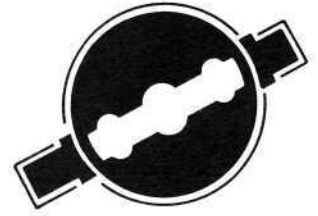
## REFEREE'S NOTE

As a Sourcebook, this material is intended to provide the *referee* with a wealth of information from which to run his or her own adventures. One major adventure is included for those who wish to work within the framework of carefully detailed material. A good portion of this book, however, is designed in such a way that referees may allow their groups to simply wander where they will, meeting the people with which the locations in this book have been stocked, and getting involved in such adventures as they may encounter in their wanderings. In particular, the outposts on Inferno are laid out in some detail, with diagrams of sample locations, and descriptions of the people to be met at those places. In turn, suggestions are given as to how these people might involve the players

in an adventure.

Any of these people or locations may be moved or modified as the referee sees fit, to keep the action moving during play. Some care should be taken to ensure that the results make sense in the context of humankind's outposts on Inferno, but this should pose no real problem, as the outposts are very well explained.

If the referee wishes to run a long standing campaign within the Nyotekundu system, he or she should take some time to design more individual NPCs in order that the players will have fresh encounters in their play. The NPCs in this book can serve as examples for new designs. The *referee* is encouraged to include at least one minor adventure idea with each new NPC. In this way, the *referee* will eventually have a whole city of NPCs, each a possible springboard to action for the players.



# Inferno

## THE NYOTEKUNDU SYSTEM

All of this adventure takes place within the confines of the Nyotekundu star system. Although system background information is not of immediate consequence to the resolution of much of the situation, this chapter gives an overview of the contents, history, and current status of the system.

## ACCESS TO THIS INFORMATION

The background information in this section can be used by the referee and by players. However, players should be limited in their ability to make use of this material directly. Players are free to read through the section at any time prior to the actual start of the game, representing their initial briefings and past knowledge of the system. Thereafter, however, they may only consult this chapter again under certain very specific circumstances. In effect, they may choose to look up the information again using a computer terminal, or they may hope that their characters can "remember" the material in more detail than the players themselves remember it. There is no bar to players taking notes, and a player who can remember information he reads can assume that his character has remembered at least that much as well.

Either of the two ways by which players can consult this material again after the start of the game relies on the use of a task.

To access computer background information: Simple. Information Gathering. 10 minutes.

*Referee's Note:* This requires the presence of a computer terminal or portacomp equipped with a reference chip on the Nyotekundu system.

To remember background information: Difficult. Intelligence. Instant.

## DISCOVERY AND EARLY EXPLORATION

The first working stutterwarp drive was developed by a consortium of French, British, and German scientists working in an ESA research facility in French Switzerland in the year 2136 A.D. The ESA effort was hindered by a drastic shortage of tantalum, but enough was available to launch an unmanned probe into the Alpha Centauri system late in that year. A manned ship followed shortly thereafter, but this drained the ESA tantalum resources. It seemed

that the Europeans were to have the prestige of the interstellar travel breakthrough, but none of the actual benefits.

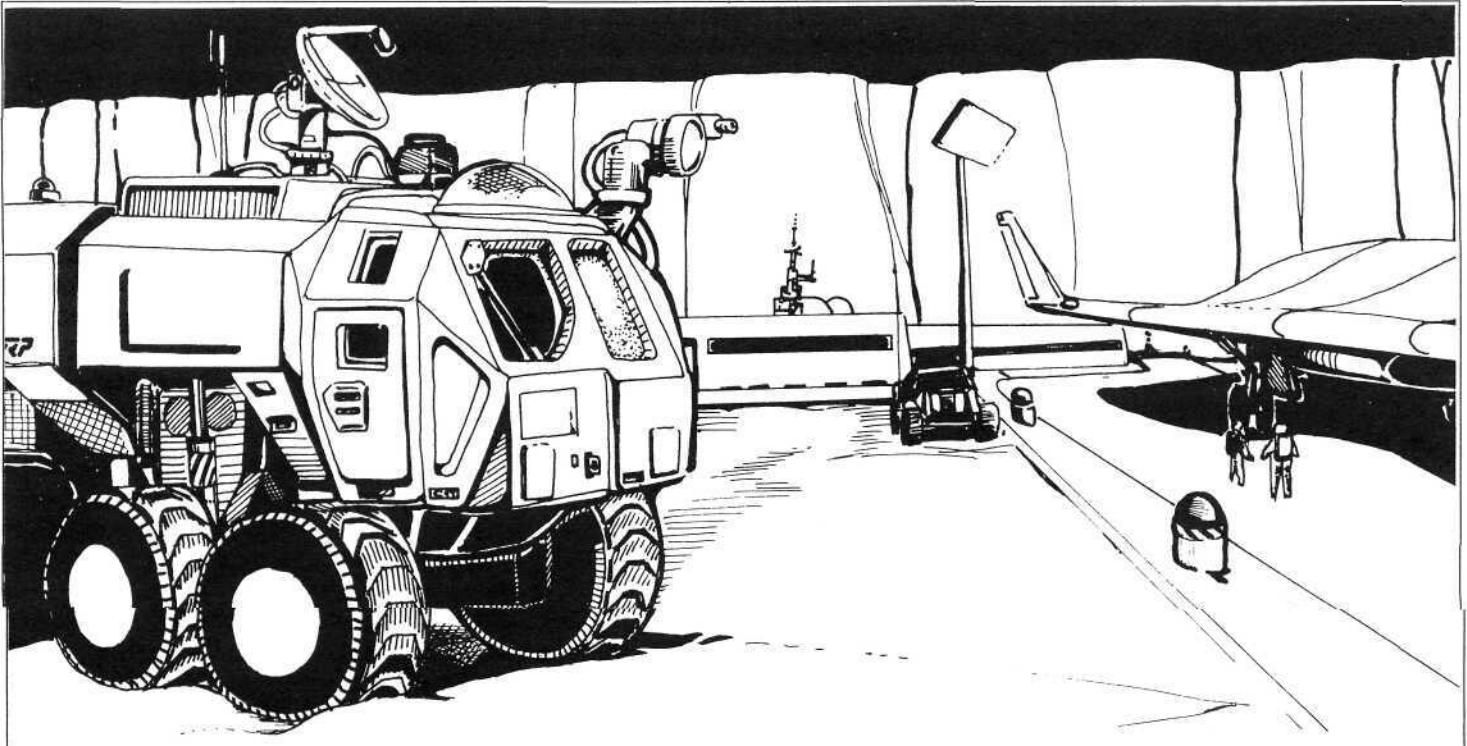
By one of those fortunate twists of history, though, the ESA was rescued from obscurity by a nation which had itself been dismissed as obscure and valueless less than a generation before. An ESA official in London discovered a long-buried file containing a plea by the emergent nation of Azania for the chance to participate in ESA activities in order to bolster a chaotic industrial situation and share in the high-tech developments coming out of the space program long before the discovery of a workable star drive. The Azanians offered to share their abundant natural resources, including some of the most extensive tantalum deposits in the world.

At the time of the application, tantalum was just another rare metal, interesting, but hardly essential. Long standing resentment of the black majority government of Azania, especially on the part of Great Britain, had led to a cold dismissal of the application when it was initially made. Now, though, with tantalum a commodity absolutely essential to the expansion into space, old grudges and snobbery vanished quickly in the scramble to find out if the Azanians were still interested in joining with the European nations in the conquest of space.

It took astute diplomacy on the part of ESA to keep other interested nations from snapping up the prize, but at last, in 2139, Azania formally joined the European Space Agency. One of their terms of joining was a matter of national prestige: they wanted the right to name the next star system visited by a manned ESA ship.

Two years later the ESA survey vessel *Pathfinder* was completed and launched on its maiden voyage. Built in a converted shipyard in Glasgow, Scotland, *Pathfinder* was financed and crewed jointly by all four of the ESA nations. Her captain was Lord Geoffrey Ramage, a veteran pilot best known for his involvement in the Jupiter Probe of 2134. Ramage was to go on to become one of Britain's foremost figures in her conquest of space, taking his place beside Cook, Nelson, and a dozen other national heroes in the long, proud tradition of the island nation.

*Pathfinder* was assigned to make a sweep outward in almost the opposite direction from the original Alpha Centauri probes, with the object of surveying several nearby stars and claiming them for the ESA. Although small by later standards, the survey ship did carry enough people and equipment to leave behind survey teams and temporary outposts on promising planets. The first star visited was Wolf 359, and, in accordance with their agreement, the Azanians were given the honor of renaming the star. They chose the name Nyotekundu (Swahili: "red star"). The system itself was



disappointing, without any worlds that could be considered even marginally habitable. Captain Ramage, given the customary duty of naming the planets in the system, refused to consider linking his family name, title, or friends with any of the bleak, hostile worlds the ship surveyed. His choice of nomenclature was an extremely indirect compliment to his mother, an Italian heiress who married the 34th Earl of Blazey while the latter was England's ambassador to Italy: all the names were drawn from Dante's *Inferno*. The naming proved apt.

Surveys of the innermost planet of the Nyotekundu system revealed a mineralogical treasure-trove; though harsh and inhospitable, Planet I was plainly a prize worth investigating more closely. Ten men and women, six of them Azanians, were left behind when *Pathfinder* moved on, to conduct a more thorough examination of planetary conditions. Azanian occupation of the outpost has continued ever since, though it has since been expanded considerably and was joined in 2184 by a French facility constructed not far away. More details of these two posts, and of the subsequent history of the system, are covered in the next chapter.

## FIRST IMPRESSIONS

*We came in with all the viewports shuttered tight, so we didn't get a chance to see Inferno on the way down. They don't like to leave the ports open—the pilot said it was an extra safety precaution against the weather and the bad air outside—so there wasn't much of the old romance of landing on a new world like they push on the tridee. It wasn't until we were on the ground and coming ashore that we had a chance to see where we were through a transparent part of the boarding tube. All of a sudden, there it was!*

*Outside was a scene I won't soon forget. It was dark, with no sign of Nyotekundu here on the nightside where all the bases are. The only lights were man-made, spotlights all around the landing field and the two or three buildings we could see. The landscape was as bleak and lifeless as you could imagine, and even inside the heated tube you felt yourself shivering just to look at it. Some of the rocks glittered in the light—they were solid, frozen ammonia boulders! Nobody was moving around in the open down there,*

*but we did see a few monster-sized vehicles.*

*Off in the distance there was a faint red glow along the horizon. Lemieux was staring at it like a bird stares at a snake. Forbes, the old Inferno hand, just grinned. "That'll be Old Red-Eye," he told the kid with a little smile. "He throws a fit just about every day, y'know. Biggest volcano in 500 klicks...and the closest one to the base."*

*"Volcano?" Lemieux stammered. He looked like the sort who a/ways pictured volcanoes in the tropics, not in the middle of a frozen waste like this one.*

*"Sure," Forbes said. "Volcanoes—they're our bread and beer around here. But you don't need to worry, guys. I don't think the volcanoes'll get you. Not before the earthquakes, or the storms, or maybe the next flare..."*

*"Welcome to beautiful Inferno, land of milk and honey," somebody said behind me.*

*Forbes laughed. "Kind of makes you happy to be headed out for the OMS, doesn't it, McKinley? A nice, safe tour in deep space, right?" He laughed some more. "Just go on thinking that, you big dope. Me, I'll take Inferno. I'm not into a year's prison out there. At least here we don't have to worry about rad screens goin' down or ice balls knocking holes in the hull."*

*The guy was a real barrel of fun. I hope a volcano gets him.*

## PHYSICAL DATA

Nyotekundu was the name applied to the Wolf 359 star system by the first Azanian visitors aboard the *ESAS Pathfinder* in 2141. A faint star when viewed from Earth, Wolf 359 was nonetheless fairly well-known in pre-starflight times. It was first discovered photographically during the 20th century by Professor Max Wolf at Heidelberg.

The star lies some 7.75 light years from Sol, less than twice the distance to Alpha Centauri. It is the third nearest star to the to our solar system, with only the Alpha Centauri trinary and Barnard's Star being closer. The system contains six major bodies.

**Nyotekundu:** The star is classed M8V, with a diameter of 298,887 kilometers and a mass of .24 Sol. Its average luminosity is .0025 Sol, with a Stellar Effective Temperature of 2425°K.

Its absolute magnitude is +16.68, with an apparent visual magnitude from Earth of 13.66. Nyotekundu is typical of the numerous small, faint, red dwarf stars that are common throughout space. Like many of these it is a flare star given to irregular surges in output which can cause luminosity and stellar radiation to jump by a factor of up to 2.5.

**The Planets:** The planets orbiting Nyotekundu are fairly old, and are classed as Population II. The first planet exhibits some characteristics that suggest an origin outside the star system. Of the six planetary bodies in orbit around Nyotekundu, only two are actually of interest. Planet I, Inferno, is an anomalous, high-density failed core world with an extremely eccentric orbit. It is the site of both of the outposts maintained in this system, and is primarily of interest due to its extremely valuable mineral deposits and to the extensive low-temperature factory complexes maintained there.

Planets II through V are insignificant balls of rock and ice. They received the names Caina, Antenora, Tolomea, and Giudecca; in Dante's *Inferno* these were the four frozen circles of Lower Hell. No survey has ever found anything of value on any of these four small worldlets.

The outermost planet of the system is a gas giant of superjovian dimensions. Its vast and complex ring system, far grander than Saturn's, was the inspiration for the name bestowed by Captain Ramage. In keeping with the nomenclature of the rest of the system, Planet VI is named Cocito, after the frozen river Dante placed at the bottom of Hell. Cocito was the subject of an extensive study on superjovian planets conducted by the Royal Society, and is currently being mined for ice to support the outposts on Inferno.

## INFERNO

The innermost planet of the Nyotekundu star system has been described as "a planetologist's nightmare" and "Satan's Playground." It is a harsh and forbidding place where severe climatic conditions are matched only by seismic activity in fury and danger.

**Orbit:** Inferno orbits Nyotekundu at an average distance of .18 au. An extreme eccentricity—amounting to .1402—makes this orbit much more elliptical than is normal for most planets. Periastron, Inferno's closest passage to the star, takes the world to within .16 au, while its maximum distance out at apastron is .21 au.

This extremely close orbit gives Inferno a period of only 8.9 Earth days. The planet cycles through all the "seasons" of a "year" in just under nine standard days, experiencing rapid shifts in climate. Despite this short year and close orbit, though, Inferno lies outside the Nyotekundu system's Habitable Zone, along with all the other planets orbiting the star.

**Physical Characteristics:** Inferno is a highly unusual world in many respects. Some of its oddities have only been partly explained, while others are the plain result of the unusual circumstances of its placement and conditions. It is classed as a Failed Core world, a planet which just missed out on becoming a gas giant. It has a mass of .88 Earths, but a density of 1.40 Earths. The planetary diameter is 10,943.9 kilometers, giving it a circumference of 34,381.2 kilometers. Gravity is 1.024G, and the surface escape velocity is about 11.5 kilometers per second. It has an axial inclination of 26°47'11.8." There are no natural satellites.

Atmospheric pressure on Inferno is surprisingly low, given its origins and high density. At about 1.0 atm, surface pressure on Inferno is almost identical to Earth's. The composition of this atmospheric envelope, however, is quite different, being composed primarily of methane, ammonia, and free hydrogen.

Inferno is tidally locked to Nyotekundu, and does not revolve around its axis. The close passage of the world to the star during periastron does cause a certain amount of libration, shifting the terminator line slightly back and forth during each 8.9-day cycle. The combination of the tidal lock, the orbital eccentricity, and a runaway Greenhouse Effect has produced a world where temperatures vary radically from point to point across the surface. The average dayside temperature of Inferno approaches + 130°C, with a nightside average of around -50°C. At periastron, temperatures run as much as 35°C higher; apastron temperatures can drop by 25°C or more. This causes storms and other weather patterns of unbelievable fury and severity. Like Dante's Hell, Inferno is truly a place of both fire and ice.

The lack of rotation leaves Inferno without a significant radiation belt; radiation received from Nyotekundu is dangerously high on the planet's dayside. The fact that Inferno orbits a flare star makes this situation even worse; during a flare temperatures can climb by as much as 50-55°C above normal levels, while the radiation becomes severe enough to defy all but the most well-protected sites and structures on the daylit side. It is likely that the repeated flares were responsible for the planet's failure as a gas giant, stripping away the majority of the atmosphere eons ago. The proximity of the star and the heavy radiation output also cause massive amounts of hydrogen ionization that tends to limit dayside communications to line-of-sight at best, and even causes some disturbance to communications on the shielded nightside.

Tidal effects caused by Nyotekundu's small but close mass, and by the disturbingly eccentric orbit, make the planet seismically unstable. There is widespread vulcanism, and quakes are frequent and severe. The planetography of Inferno shifts much more quickly than on Earth, thanks primarily to these internal forces. Weather erosion is also greatly accelerated by the fierce weather that prevails over much of the world. The land tends to fall into wide extremes of deep rifts and high mountains, with features changing rapidly under the stresses of this dangerously unstable world.

Inferno has no significant hydrosphere. On a more normal world temperatures would probably be right to allow ammonia to take the role filled by water on Earth, but extremes of temperature make it very difficult for bodies of liquid ammonia to form for long. On the nightside ammonia tends to freeze out (although flares often cause even darkside seas to melt and then boil); on the dayside the temperatures under the eternal light of the star are simply too high to permit precipitation. Even the "twilight zone" band around the terminator is not an area where open seas can form, because of the dual effects of libration and of periodic temperature anomalies induced by flares or variations in orbital position. The twilight regions are in constant turmoil as cold, wet air pours over from the nightside, then heats, rises, and flows back across the terminator. These areas are swept by almost constant storms featuring violent winds, sandstorm conditions, and the violent precipitation of ammonia rain carried into the nightside at high altitudes. The lack of planetary rotation keeps the world from experiencing the circular weather patterns of our Earthly experience, and areas distant from the twilight zones actually see only minimal shifts in weather except as a result of heavy flare activity.

**Resources:** Inferno will never support life as we know it, and offers little in the way of attractive features. But the planet is likely to be of extreme value to Earth for many centuries to come, thanks to its unique place among known worlds as a prime site for mineralogical exploitation and industrial development. As its high density suggests, Inferno is composed of a high proportion of heavy elements, and the planet is considered a mineralogist's treasure-trove. Large quantities of gold, platinum, uranium, plutonium, and

other such metals are easily found and almost as easily mined on Inferno. All the signs point to the presence of sizable deposits of tantalum as well, but so far this most important of all metals has yet to be found (although false reports have already set off two "tantalum booms" that have drawn hundreds of independent prospectors to the planet in search of a fortune). Over the past century pioneering efforts by France and Azania have also brought extensive automated industry to Inferno. Although the population is never likely to rise much, this planet is certainly a crucial interstellar holding for both nations, and has the further importance of its position as the first stop on the well colonized French Arm transport run.

## COCITO

Nyotekundu's outer planet is a spectacular ringed gas giant. Although gas giants do not, as a rule, greatly interest anyone outside of the odd astronomer or planetologist, Cocito has proven to be an integral part of the effort to tame Inferno's fires for humanity.

**Orbit:** Sixth out from Nyotekundu, Cocito is 6.2 au distant from the star. It has a period of about 367,428 days, taking over 1005 years to make a complete circuit of its primary. Eccentricity is minimal—about .0316—and largely academic anyway. At this distance, the dwarf M8V star provides far less heat and light than Cocito generates internally.

**Physical Characteristics:** Cocito is a superjovian world, a planet that only narrowly avoided becoming a small star in its own right. It has a mass of 359.2 Earths, a density of about .21, and a diameter of 394,240 kilometers. This gives the gas giant a circumference of 1,238,541 kilometers, a gravity in excess of 400G at the surface, and an escape velocity of over 4622 kilometers per second. It is actually somewhat larger than Nyotekundu, the planet's primary, but density and mass are both significantly lower, and the planet never achieved the conditions needed for solar fusion. Axial inclination is 18°5'19.2." The planet supports 12 small satellites, none of them noteworthy.

In most ways Cocito is a fairly ordinary gas giant despite its size. Scientists theorize that the concentration of material in Cocito was responsible for drawing off most of the orbiting mass in the coalescing system during formation, which accounts for the dearth of other significant bodies between Inferno and Cocito. Inferno itself is considered to be an interloper captured by the interplay between the small sun and the huge gas giant.

Cocito's ring system is impressive; it extends for over 591,360 kilometers outward from the planet in a series of broad bands. The ring designated as D-3 exhibits a "braiding" (the twisting of sub-rings around each other at a few locations previously encountered in one of Saturn's rings and since found in roughly 13 percent of all gas giants surveyed).

**Resources:** Cocito's one attraction to business-minded men is that its ring system is made up of chunks of ice, many of them quite small. It is for this ice that men have come to the frozen river of Hell to make their fortunes.

## EXPLOITATION AND DEVELOPMENT

Nyotekundu must have seemed a major disappointment to the members of the *Pathfinder* expedition, particularly in light of the fact that the other discoveries made later in the voyage—Bessieres and Augereau—were little better. It wasn't until several years later that explorers encountered the planets that would make up the heart of early settlement of the French Arm, including Queen Alice's Star and Neubayern.

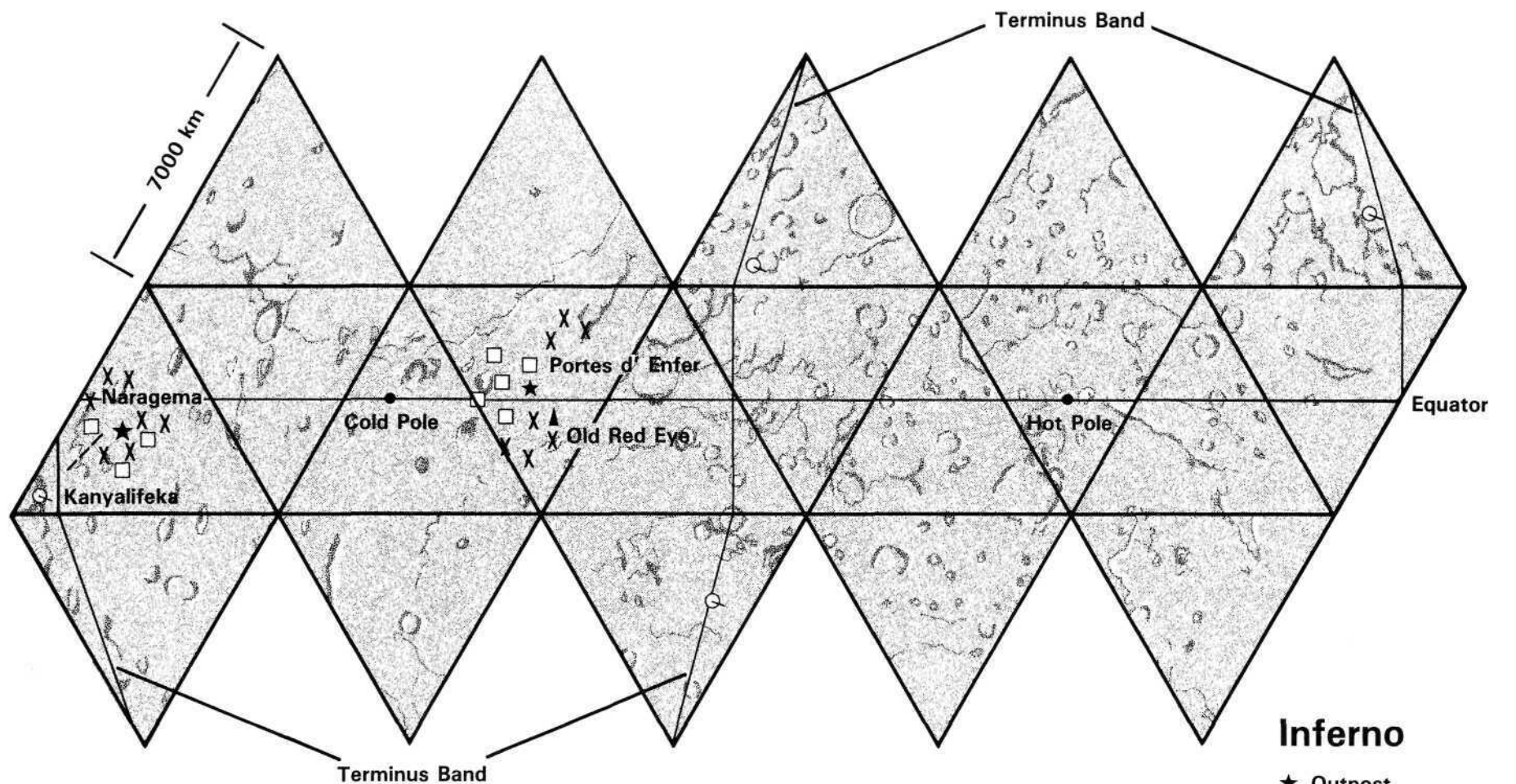
The Azanian outpost on Inferno remained operational throughout this early period despite hardship and hazard. It was

expanded as successive expeditions passed Nyotekundu on their way to survey the rest of the Arm, and by 2152 it was staffed by over 100 people. The outpost primarily existed to service exploratory vessels. A major portion of its work was in the field of "weather prediction." The danger posed by unexpected stellar flares was keenly felt by the crews of survey ships passing through the system, particularly in light of the disastrous failure of the LaFarge radiation screens aboard the ESAS *Endeavour* in 2168. Automated weather stations located in four spots around Inferno's terminal line keep a constant watch over Nyotekundu, while the outpost maintains a running transmission of current conditions, forecasts, etc. The outpost cannot actually give warning of a flare—by the time they could react to a change in the stellar radiation, the flare's wave front would have passed them by. Instead, it is the *failure* of the ongoing transmission which signals the start of a flare. Ships can use stutterwarp to evade the danger if they act within a few seconds of this loss of signal. (Many ships carry sophisticated computer programs which react to the loss of signal nearly instantaneously.)

In addition to the development of the flare warning system—an absolute necessity given the number of ships which were forced by astrographical circumstance to use the system as a discharge point—the Azanian outpost set up the first working mineral extraction operations on Inferno. It was soon discovered that volcanic activity on the planetary surface exposed major deposits of metal ores in nearly pure form, and mining operations soon centered on the use of vehicles and remotely piloted mining drones to locate and exploit these sites. The Azanians laid the groundwork for all later developments in Inferno's mining industry during their period of undisputed control of the planet. Through most of this period no other European nation was willing to invest the kind of capital needed to make an Inferno-based operation practical. It fell on Azania, backward but now rich beyond all imagining, to guide others.

By 2180 the Azanian outpost had grown about as far as it could; a massive new commitment would be needed to expand the outpost any further, and the Azanians by now had better opportunities beckoning. It was at this juncture that the Aberdeen Mineral Exploitation Company (AMEC), a mining and industrial firm based in Great Britain, conducted a private survey of Inferno. The essence of the AMEC survey report was the revelation of a completely untapped economic opportunity on the planet, an opportunity that could vastly increase the usefulness of a planet long ago written off as nothing more than a particularly large, particularly unpleasant strip mine in space. The AMEC report recommended the development of planet-based industrial complexes, largely automated, which would turn the low temperatures and unfavorable conditions of the night side to advantage. The elimination of waste heat and radioactive products had by this time become the last really serious pollution problems faced by industry, and here was a planet where neither heat nor radiation was ever likely to pose a problem. The ready availability of raw materials right on hand was the most important plus to this whole plan, since it saved the need for expensive interplanetary or interstellar shipping to unite material with production facilities. The entire project had the potential of revolutionizing industry in the human sphere, and AMEC stood to gain a fortune from pioneering the concept.

AMEC assembled a detailed proposal for the construction of industrial facilities on Inferno. A portion of their plan revolved around a plan to place a large Orbital Mining Station (OMS) in orbit in the rings of Cocito; this station would gather and ship ice to Inferno to be used for several purposes: hydroponics and other life support for planet personnel, and, more importantly, as coolant for



## Inferno

- ★ Outpost
- Factory
- X Mining Facility
- Q Weather Station
- Underground Tunnel
- ▲ Crater or Volcano

the industrial plants. A steady supply was considered necessary due to the radioactive contaminants that would be a natural adjunct to the manufacturing processes. It was cheaper to flush off water and replace it from space than it would be to attempt any sort of reclamation project. But to implement the plan at all AMEC needed an easement on Inferno, which was held in joint trust by all the ESA nations. It was here that the company's ambitious concept ran into trouble.

AMEC approached the government of Great Britain with the scheme in 2181, but commitments to the colonization at Queen Alice's Star were uppermost in the minds of officials in the Colonial Office. The proposal was shelved indefinitely. It is likely that the British were partially motivated by an unwillingness to allow a corporation direct access to the great mineral wealth of Inferno, and postponed the problem until they could deal with it more effectively.

When the company approached the French government a short time thereafter, the same hesitation prevailed. The steadfast belief that there were rich tantalum supplies on Inferno made it unthinkable that any national government should permit an independent body like AMEC to operate so ambitious a project on the world. But France was entering a period of colonial resurgence following the stagnation at the end of the so-called "French Peace." The French badly needed the prestige of rapid interstellar expansion, just as they needed an economic base in space to replace declining markets and resources on Earth. Rather than simply ignoring the AMEC proposal as the British had done, the French government chose to take it over and administer the scheme as a government project.

AMEC officials were horrified at the decision, which effectively spelled the end of their ambitions. Their resources could never compete directly with a nationalized version of the plan. But the French soon came up against a serious problem in implementing the new project. The government did not own an OMS; indeed, the orbital mining stations were at this time exclusively in the hands of AMEC, which had pioneered the design for mining the asteroid belt even before the discovery of the stutterwarp. As the whole industrial establishment on Inferno would depend upon the Cocito ice shipments, France faced the choice between investing in a crash program to construct an OMS (which would delay them by several years and require a major capital outlay), or coming to an accommodation with AMEC after all. Reasoning that delay would weaken national prestige while tying up funds that would be better used in the industrial program itself, the French opened negotiations with AMEC.

The French government remained adamant that all facilities on Inferno were to remain under government control. Their plan was to set up a monopoly on planetary production facilities while selling licenses—and support services and equipment—to companies and individuals who wanted to prospect for ores on the planet. Since the government had the capability to build their own station if the company pressed too hard, AMEC finally settled for a long-term contract that guaranteed them extremely favorable terms on the sale of ore to the industrial complex in exchange for the full-time placement and operation of an OMS to support Inferno. The *Andrew Carnegie*, fourth of AMEC's orbital mining stations, was slated for the task. It was towed into the system by stutterwarp tugs in 2184, the same year that the French outpost was founded. Ice gathering and shipment started on a large scale to set up an initial reserve, but after two years the OMS reduced work to minimal levels necessary for the maintenance of the water supply on Inferno.

Following the establishment of the French processing facilities, the Azanians moved quickly to set up industrial plants of their own.

This fostered a certain amount of rivalry and ill-feeling between the two governments, but only for a time. It soon became clear that two operations were needed just to handle the resources that were flooding in, and there was never a time when competition actually threatened the economic base of either outpost. AMEC signed an agreement with the Azanians along the same lines as the original French contract in 2196, when the Azanian industrial plant became operational. Through all of this expansion, neither of the two outposts grew large enough to be considered a colony; both facilities were so extensively automated that only a relatively small number of specialist technicians was needed to handle processing. Much more space in each was devoted to service industries that supported the independent mining ventures.

The pattern for Inferno's future was set. Government-controlled facilities handled all manufacturing processes on the planet, purchasing all ores discovered on Inferno. They also sold licenses to prospecting ventures, and private enterprise within each outpost handled such matters as outfitting and recreation. Mining was no longer conducted by any government directly; instead, this became an area of corporate interest. Although there were some attempts at individual prospecting in the early days of the new system, the harsh realities of life on Inferno made these efforts too expensive to pay off. It takes heavy vehicles to scour the surface of Inferno. Volcanoes bring the ores to the surface, where they are discovered by scout vehicles. These call in large mobile collection facilities, massive armored behemoths mounting atomic-powered boring coils which can melt tunnels directly into rock and so permit limited underground movement at need. Ores are collected and delivered to one of the outposts, where the government pays for what it buys. The biggest mining concern on Inferno is still AMEC, since it gets a better price (and pays lower fees) than other firms as long as the OMS continues to deliver regular shipments of ice.

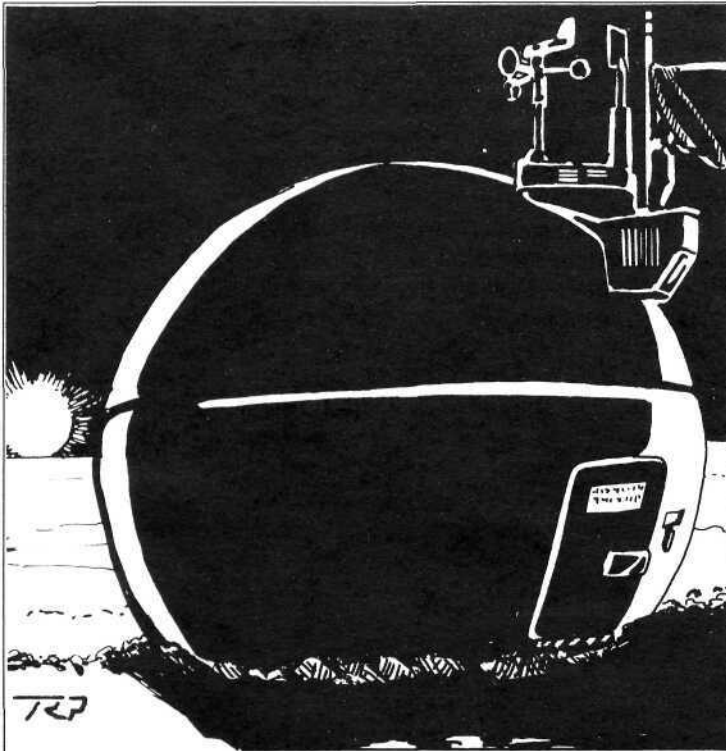
## GETTING TO NYOTEKUNDU

Some of the first questions to come up in many role-playing sessions are: Why are we here; what brought us to this place? When it comes to the Nyotekundu system, the answer is simple: If you wish to travel from Earth to anywhere on the French Arm (or vice versa), you have to pass through Nyotekundu. Therefore, if the players have any reason to travel, they will most likely end up in the system on their own.

If the referee prefers not to let them wander until they find themselves at Nyotekundu, any number of excuses will serve to get them there more quickly. One motivation is laid out in *Echoes of the Past*, the main adventure included in this Sourcebook. In that adventure, the players have come to Nyotekundu to work out a problem on the orbital mining station (OMS) which is located within the rings of Cocito. There are several ways in which the players can become involved with the mission to the OMS—these are explained in the introduction to the adventure, later in this book.

There are other reasons to end up in the Nyotekundu system. Players working within the French Arm might be called back to Earth to report to authorities there. On the other hand, players on Earth might be sent to some location along the French Arm to deliver a message, perform an investigation, or the like. On the way, their ship stops at Inferno to pick up passengers.

Most ships which travel through this system do not stop for any length of time. They are not designed to make planetary landings, and rather than risk being caught in open space during a sudden flare from the star, they remain in-system only long enough to discharge their stutterwarp drives and possibly to pick up some passengers who are already waiting in orbit around Inferno.



face, it is certain that once they are there, they will find an exotic locale to explore, with many possible adventures. It is likely that they will become so involved in playing in this environment that any trouble the referee might have had in getting the players onto the planet will be as nothing in comparison to the difficulty in convincing them to leave.

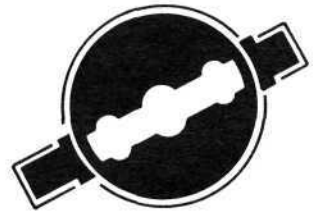
If the players are on such a ship and have no specific reason to visit Inferno, it is unlikely that they will be willing to fork out the money for transportation to and from the planet's surface. Unless they have a lot of money and a healthy dose of curiosity, they are likely to remain on the liner during its brief in-system stop. (Remember, however, that cost for transport down from orbit is only 10 percent of what it is to orbit—some players might be tempted to visit the planet and ship out on another vessel later.) One way of getting the players on-planet is to have given them special instructions prior to their trip. These instructions could be to meet someone on the planet, or they could be told to personally pick up a package to be delivered to their final destination. Alternately, the ship in which the players have been riding might need to be evacuated because of some sort of emergency.

Of course, there are a number of vessels which specifically travel to and not just *through* Nyotekundu. Such ships are designed to make planetary landings. Tickets on these ships tend to be about 10 percent cheaper for the distance travelled than tickets on liners which merely pause to discharge their stutterwarps before travelling on. In other words, a passenger travelling from Bessieres to Sol will pay 10 percent less for the entire trip if he buys a ticket from Bessieres to Nyotekundu and waits on Inferno for a connecting passage from Nyotekundu to Sol than if he buys a ticket on a liner which goes directly from Bessieres to Sol (stopping in the Nyotekundu system only long enough to discharge the stutterwarp).

In general, about a dozen ships pass through the Nyotekundu system during any given day. This includes merchants, passenger liners, and military ships. Of that dozen, one or two have some reason to stop at Inferno. The longest any traveller would have to wait on Inferno for passage on a vessel leaving system would be one day. However, about two out of every three of these will be headed to Sol, with only one in three going to Bessieres.

At any rate, if the players choose to save money on a ticket through Nyotekundu, they will find themselves at the French outpost for at least several hours. It is only natural that they explore the complex in that time.

Whatever the means of getting the players on the planet's sur-



# Outposts

Inferno is a very strange place to live and work. This chapter explains just how strange an environment it is, concentrating especially on humankind's constructions on the planet. Also included are descriptions of special locations within the French and Azanian outposts, including non-player characters who can be encountered there and the adventures which they may involve the players in.

**Referee's Note:** NPCs in this chapter have, as part of their description, a comment about their skill levels. In general, this is given in one of two ways. The first is a simple statement such as "Dave has a level 7 in Mechanical skill." This means that Dave gets a bonus of 7 on any roll versus that skill. The second way of noting skill levels here is "Dave has a +3 to all Initial Training skills for Scout." This means that the *referee* should look up the beginning levels for Initial Training skills under Scout, and add 3 to each one. Dave, therefore, has the following skills and levels: Combat Rifleman-4, Sidearm-4, Melee-4, Mechanical-7 (this skill was mentioned separately above), Electronic-4, and Vacc-Suit-5.



## WORKING IN THE GREAT OUTDOORS

Because of Inferno's methane and ammonia atmosphere, its violent weather, nightside's extremely low temperatures, and the frequent flares of Nyotekundu, humans on Inferno spend very little time outdoors. Even the best of protective suits are hard pressed to function well for very long in this environment. Therefore, most of the work which is performed on the planet is either done in specially constructed locations or it is done by a mixture of robotics and remote-controlled equipment.

Occasionally, however, pieces of equipment require servicing of some sort. Most of this can be done by recalling the equipment to a sheltered shop, but every once in a while, something has to be repaired in the field. Travel on Inferno is usually by ground car, because air transport is much more subject to sudden changes in wind and weather. Ground transportation can be fitted with much heavier shielding as well, an important consideration when Nyotekundu flares.

## EARTHQUAKE ARCHITECTURE

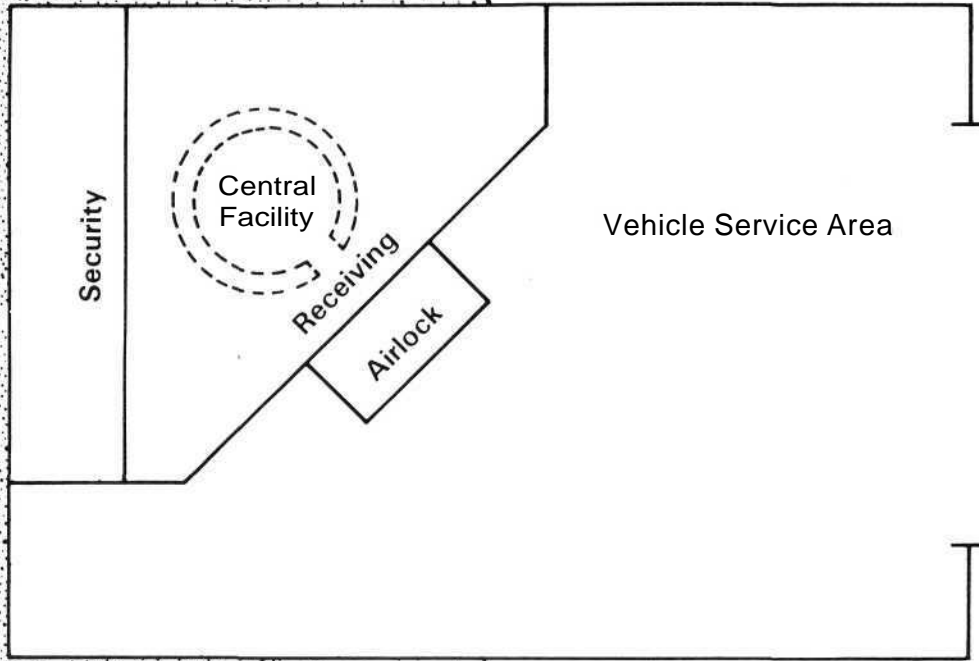
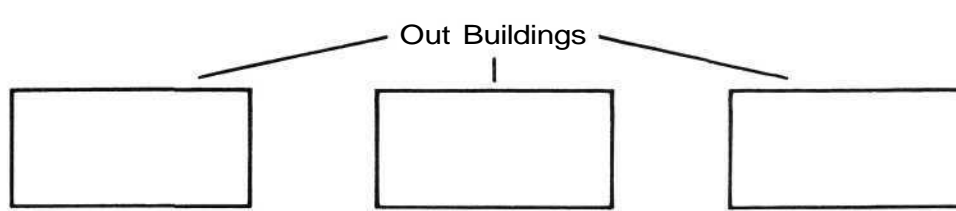
Inferno's seismic violence makes the planet both valuable and dangerous to humans. The same eruptions which bring precious metals to Inferno's surface also put a tremendous stress on human habitations. Additionally, the radiation of Nyotekundu, particularly during a stellar flare, limits the locations where humanity can build. Dayside, of course, receives far too much radiation from Nyotekundu to hold a human dwelling: even the heat radiation is at lethal levels. Inferno's terminator band is cooler, but still unprotected from Nyotekundu's frequent flares. (It is here that the automated weather broadcast stations are located.) Nightside on Inferno receives much less radiation, but as a consequence is dangerously cold. Finally, Inferno's atmosphere is lethal as well.

The automated mining camps (and weather stations, for that matter) require frequent servicing, however, and the low temperature factories have to be staffed. The personnel required for this cannot dwell in orbital stations—flare radiation is too high, and it is also best if they are closer to the equipment they service—therefore, surface dwellings have had to be designed that can withstand the frequent quakes and radiation while maintaining a seal which prevents Inferno's deadly atmosphere and lethal temperatures from entering.

Quake-proof buildings are most easily constructed in the open, on foundations which can absorb much of a tremor's energy and of materials which can flex somewhat without breaking. However,

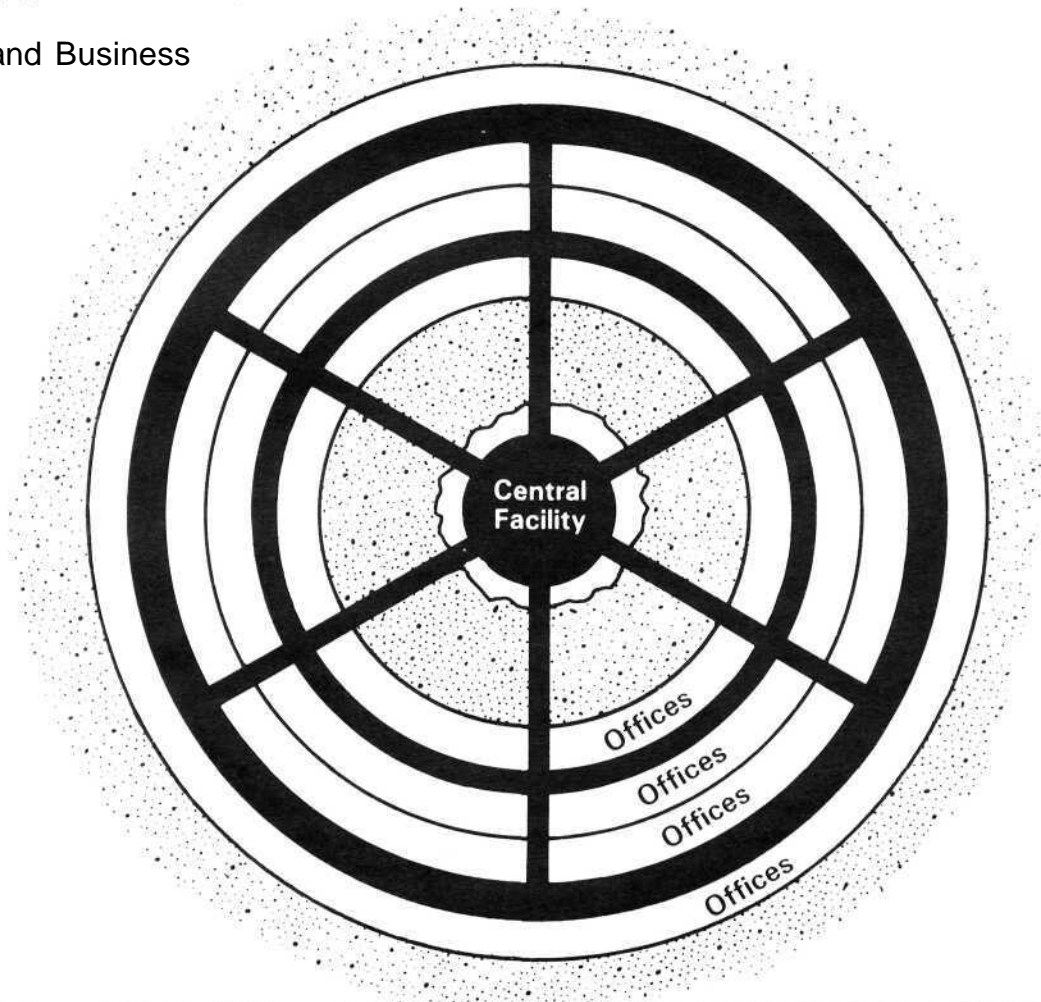
Portes d'Enfer  
Receiving and Security  
LEVEL ONE

10m ↑ N



Administration and Business  
LEVEL TWO

10m ↑ N





settlements on Inferno have to be airtight, and constant flexing puts excessive strain on seals. Radiation shielding is also necessary, and that added bulk works against the flexibility of common earthquake-proof architectural styles. It was decided that these three requirements—seismic flexibility, atmospheric integrity, and radiation shielding—were best met by locating the most seismically stable areas on nightside and burrowing into cliffsides and other large rock formations.

In constructing human habitations on Inferno, first, a heavily shielded surface facility is built. It will eventually serve as a hangar for mining and/or starport vehicles, but initially, small, airtight, temporary habitations are hung from its interior walls. Next, a vertical shaft 35 to 40 meters wide is dug to whatever depth has been chosen for the lowest level of the planned construction. It is within this vertical shaft that the central facilities (the main elevator, the main power lines, the main life support network lines, and the like) will be hung.

Next, the individual levels of the complex are dug around the central shaft. Each level consists of tunnels bored into the rock, into which are placed double-hulled tubular metal sections of passageway. (On most levels, each section is about 10 meters in interior diameter and 15 meters long.) At both ends of each of these passageway sections is an open doorway about three meters square, and the sections are connected to each other by flex joints. The door of one section, the flex joint, and the door of the next section form a sort of airlock assembly which, except in case of emergency, is always open. (The double-hull construction and the flex joints allow the system to give somewhat during severe earthquakes, without breaching the system's atmospheric seals.) A floor is placed in each passageway section and a ceiling is hung so that there is a flat surface above and below; consequently, the interior of the section looks wider than it is high. Passageway sections are laid so as to form concentric rings (like little wheels within bigger wheels) which are connected to each other by other corridors that radiate like spokes from a central point. (It is important to note that not all of these rings are circular—there has been some experimentation to determine the optimal shape both in terms of seismic stress capability and long-term effect on human behavior.)

The inner "spokes" of each level project several meters into the complex's vertical central shaft. It is from these corridor sections that the central facility is suspended—the central facility is much narrower in diameter and shorter in height than the shaft in which it hangs. Consequently, it is surrounded on all sides by several meters of open space. In this way, the central facility receives much less stress during quakes, minimizing the chance of rupturing a main power or life support line or twisting the central elevator shaft.

One result of this method of construction is that over the years, passageway sections in these complexes have shifted enough so that there is always a difference of a few inches, both vertically and horizontally, between the floors of any two sections. This can be disconcerting to visitors, and even long-term residents tend to avoid the long, straight courses of tunnel, where (due to the distance to which a person can see) the shift is most obvious.

As a side note, it is not unusual for personnel to be assigned to Inferno on a semipermanent, or even permanent, basis. As a consequence, families are common. (Some staffers bring theirs with them, and marriage between staffers is fairly common.) A lot of effort has been taken to make this enclosed environment look as much like home as possible.

Finally, everyone at Portes d'Enfer is trained in how to respond to quakes. Due to the location of Portes d'Enfer and its manner of construction, most quakes are simply ignored. Any quake which measures over 3.5 on the Richter scale, however, sets off an alarm within the outpost. When citizens hear this alarm, they are to drop whatever they are doing and activate the nearest airlock. This seals off every home and every section of passageway, so that if a portion of the outpost unfortunately suffers a breach in its hulls and has its atmosphere contaminated by Inferno's frigid ammonia/methane/hydrogen mix, the rest of the outpost remains safe. The reason for airlocks between each section, rather than just single seals, is that vacc-suited repair teams can move about within the system without exposing a sealed section to the contamination of its breached neighbor.

## THE FRENCH OUTPOST

The French outpost on Inferno is known as Portes d'Enfer ("The Gates of Hell"). It is a medium-sized outpost facility located on the nightside of Inferno. The majority of the complex is located underground—only a landing port and a few low, well constructed buildings are located above the surface.

The population of the outpost fluctuates, with an average of approximately 1650 people. About one-third of this number consists of technicians, administrators, and workers in the service of the French government, as well as residents employed by various mining firms and private enterprises. The other two-thirds are dependents. There is room for about 1900 people, originally provided for the work crews that built the complex and now retained to house transient workers and as a hedge against future expansion. Access to the surface of the planet is through a single large airlock compartment. Inscribed on the inner side of the outer door is a translation of Dante's famous sign at the gates of Hell: "All Hope Abandon, Ye Who Enter Here." It is written in French, English, and German.

There is no orbital terminal over Inferno; an orbiting station would be too greatly exposed to the hazards of Nyotekundu's radiation. While rad screens do furnish protection even from the worst flare conditions, no one likes the idea of taking unnecessary risks and perhaps experiencing a repetition of the *Endeavour* incident. Several heavy-duty scramjet shuttles are based at the French outpost to service nonstreamlined ships which may call at the planet.

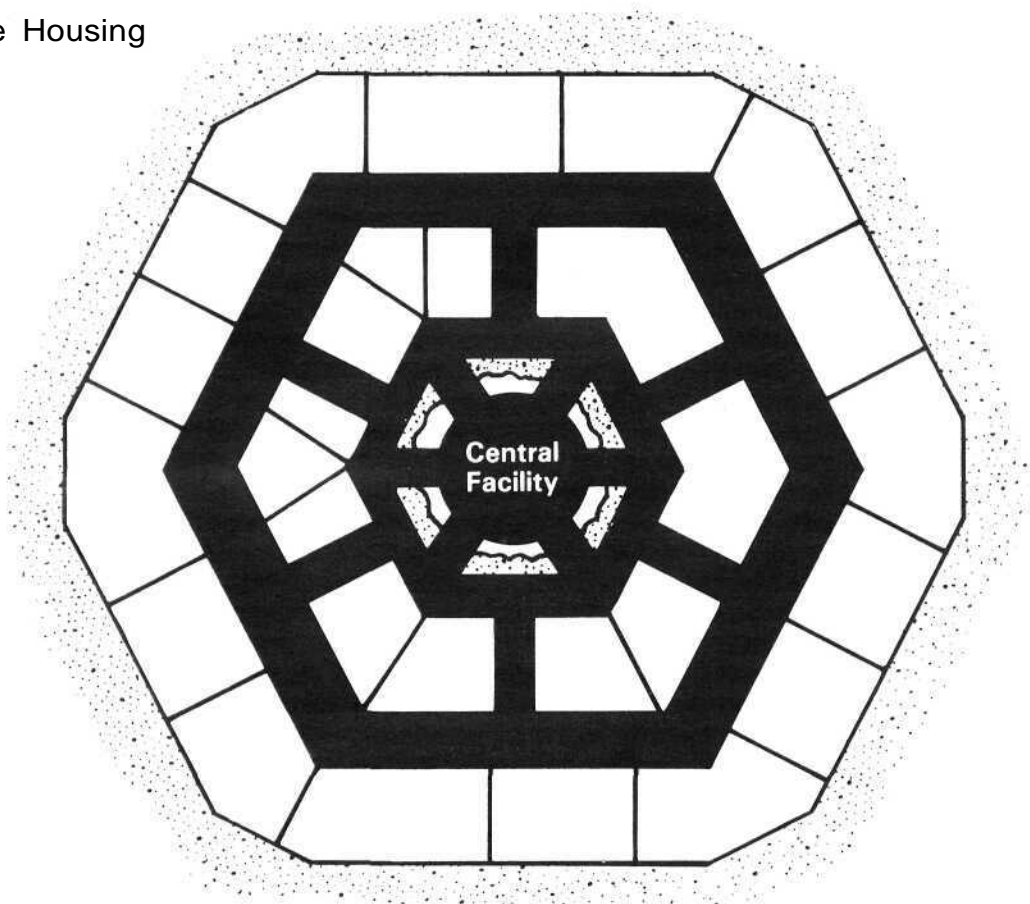
Portes d'Enfer  
Lower Income Housing  
LEVEL THREE

10m ↑ N



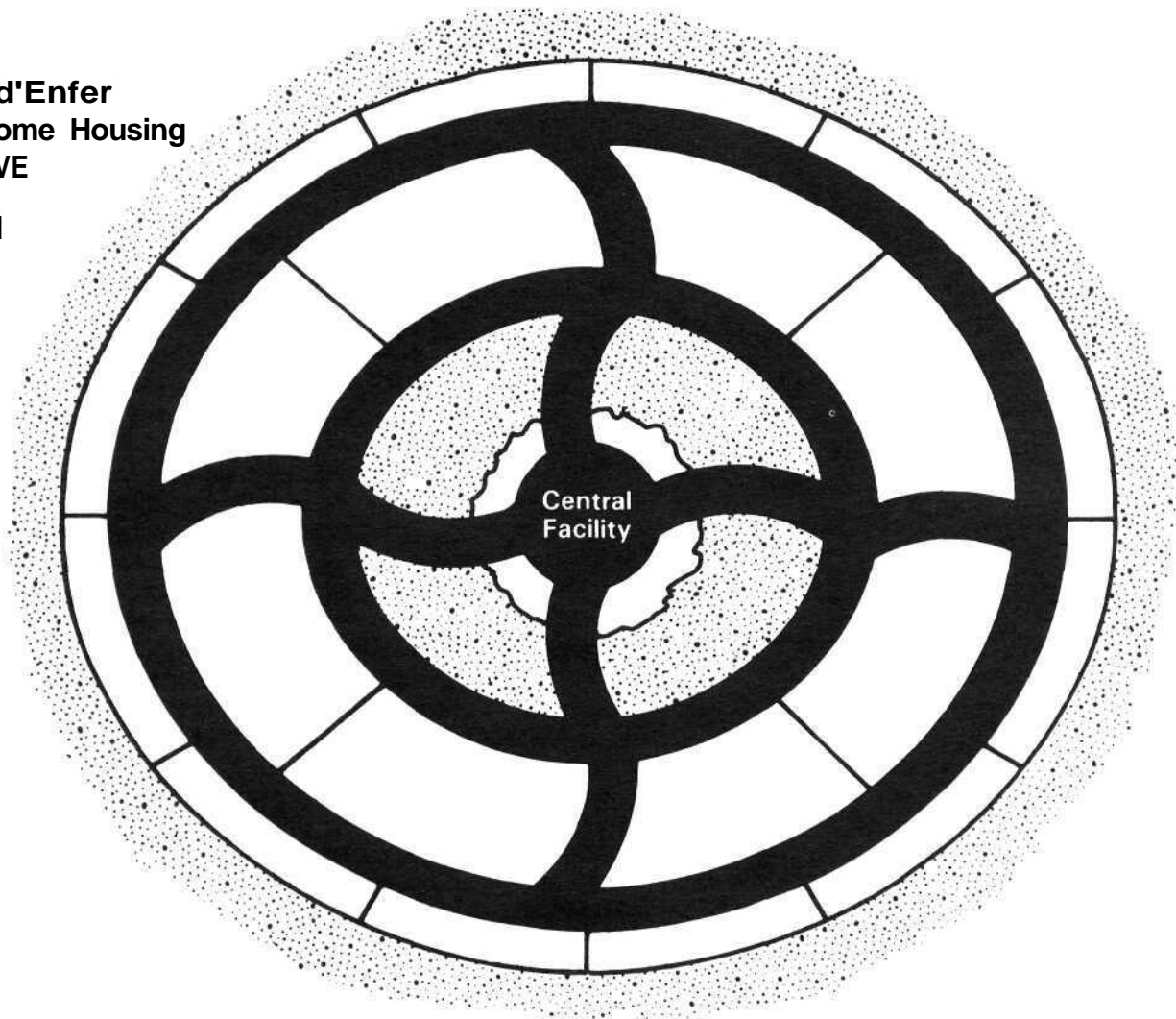
Middle Income Housing  
LEVEL FOUR

10m ↑ N



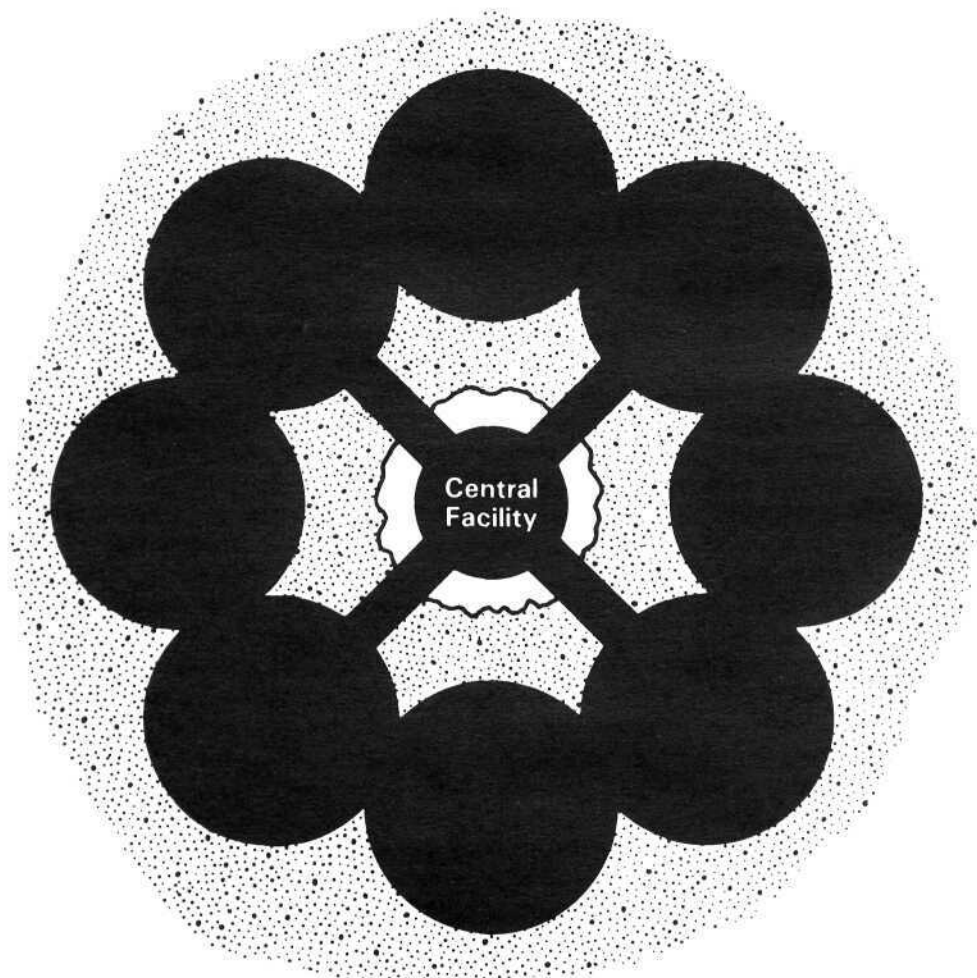
**Portes d'Enfer**  
High Income Housing  
LEVEL FIVE

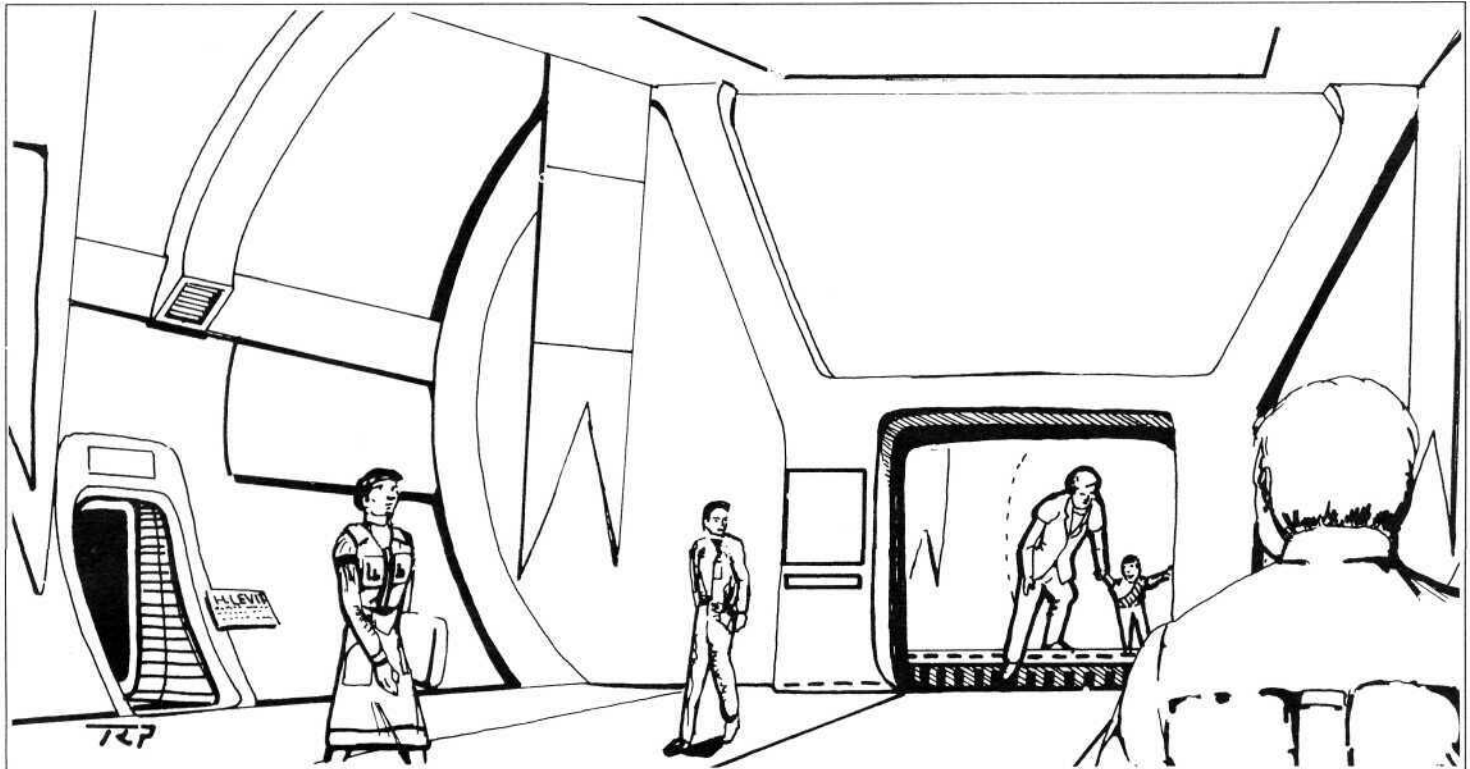
10m ↑ N



**Park**  
LEVEL SIX

10m ↑ N





Such ships stay in orbit for the shortest time possible and keep stutterwarps ready to flee a major flare if the need should arise. Most ships which regularly call to pick up manufactured goods, excess ores, or passengers are capable of landing. Portes d'Enfer is the main terminus for such ships as visit the system.

The interior of Portes d'Enfer extends ten levels underground, and includes living quarters, control and communications facilities, an entertainment district, offices, and some businesses. None of the actual industrial plants is located within 150 kilometers of the outpost; these are supervised remotely from within the inhabited complex. Technicians use *walldoes* (remote manipulators) to operate such industrial equipment as may require direct handling, but for the most part the plants are fully automated and serviced via specialty 'bots. The inspection or repair job is handled by troubleshooters who travel to the sites aboard scramjets or scout vehicles.

Portes d'Enfer has the reputation of being a rough, wide-open sort of settlement. This reputation is not wholly undeserved, thanks to the excesses of mining crews taking leave in the bars and clubs of Level 8 after a hard tour on the planetary surface. However, the gendarmes make sure that the miners confine their activities to the one level, and for all of its reputed rowdiness, Portes d'Enfer is one of the safest ports of call in the French Arm. Weapons, which are unnecessary for survival on the surface, are in very short supply, save for the sonic stunners issued to the gendarmes.

### Level One

Level One is one large, above-ground building with one end built into a cliffside. It resembles a large warehouse with a few airtight offices inside and is used to store and service mining vehicles and starships. Outside the main building lies a landing field and a few small sheds where fuel and spare mining vehicle parts are stored. The top of the shaft leading to the rest of the complex lies toward the back of Level One, in the end which extends into the cliff.

The Security Section of Portes d'Enfer lies within Level One as well.

**Encounter:** Louis Montblanc, Chef de la Police.

New arrivals to Portes d'Enfer are first taken to the Security Com-

pound to receive a briefing on the duties of a Portes d'Enfer citizen. (Foremost among these duties is the responsibility, during a quake, to activate the airlock doors wherever one might be.) This briefing is usually given by the chef de la police or his assistant. In this way, visitors are not only impressed with the importance of safety in the outpost, they are also made very aware of the police presence on Inferno, especially as each visitor is interviewed by a minor member of the police force just after the briefing, ostensibly to make sure they have understood the briefing. Montblanc believes that this helps to reduce the incidence of crime in the compound, particularly by visitors who may have come to Nyotekundu specifically to smuggle drugs, gamble, steal, or otherwise illegally take advantage of the system's miners and lower classes.

The *referee* should have Montblanc come during the players' interview and speak to them for a few minutes. In this way, they will get to know him, and he can easily serve later during a campaign to either help the players out of a rough situation or to prevent them from running roughshod over Portes d'Enfer's citizens.

Montblanc is a Veteran NPC in his late 40s, with +6 to all Initial Training skills in Law Enforcement. Other skills are left to the *referee's* discretion.

**NPC Motivation Results:** *Heart Ten:* Montblanc is devoted to justice and the well-being of Portes d'Enfer's citizens. *Club Four:* Montblanc believes in trying to solve problems with other than violent means, but if nothing else has worked, he is not afraid to use force.

### Level Two

Level Two is the first below-ground level of the French Outpost. Its corridors are laid out as concentric circles with straight spokes radiating all the way from the central shaft to the outer ring. This level has a very functional look, as is fitting its purpose: it houses administration offices for the French mining and manufacturing organizations, for the directors of Portes d'Enfer itself, as well as for many small businesses.

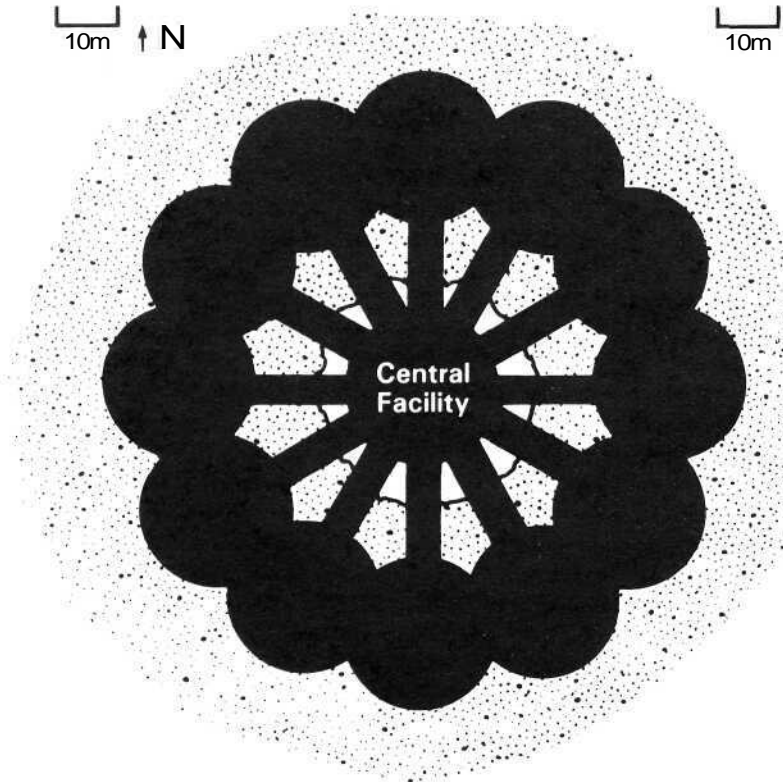
Corridors on Level Two are four meters wide, and the average single office fills something close to 30 cubic meters of space.

**Encounter:** Michael Claud-Dunham.

## Portes d'Enfer

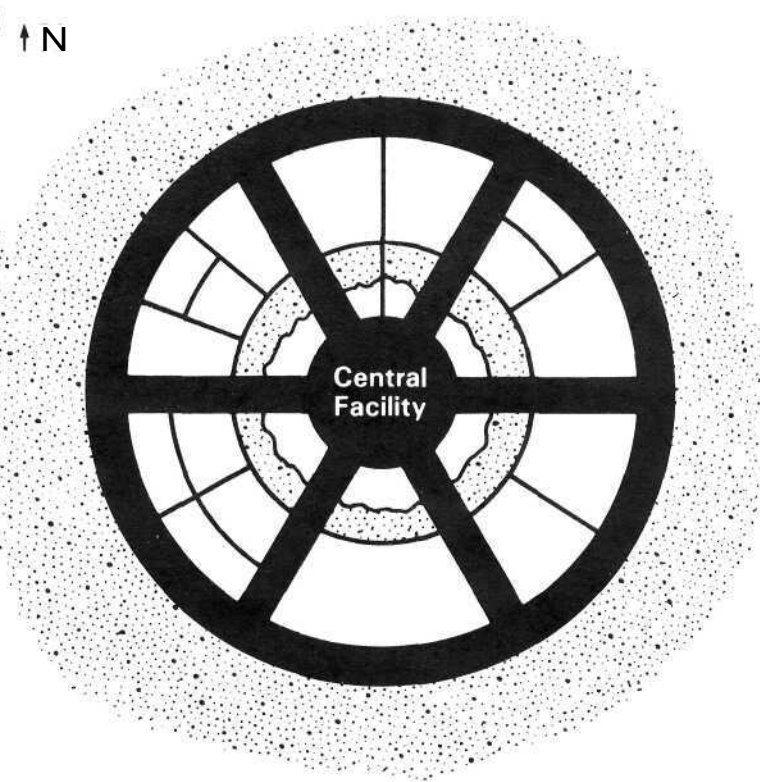
Shops

LEVEL SEVEN

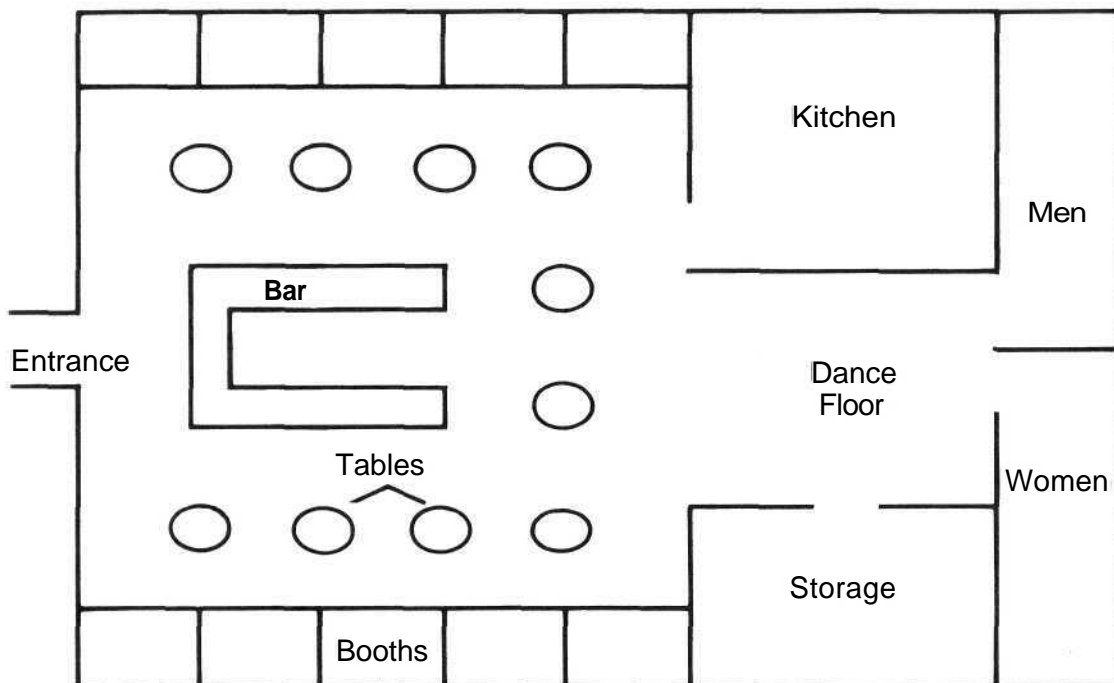
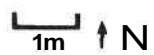


Night Spots

LEVEL EIGHT

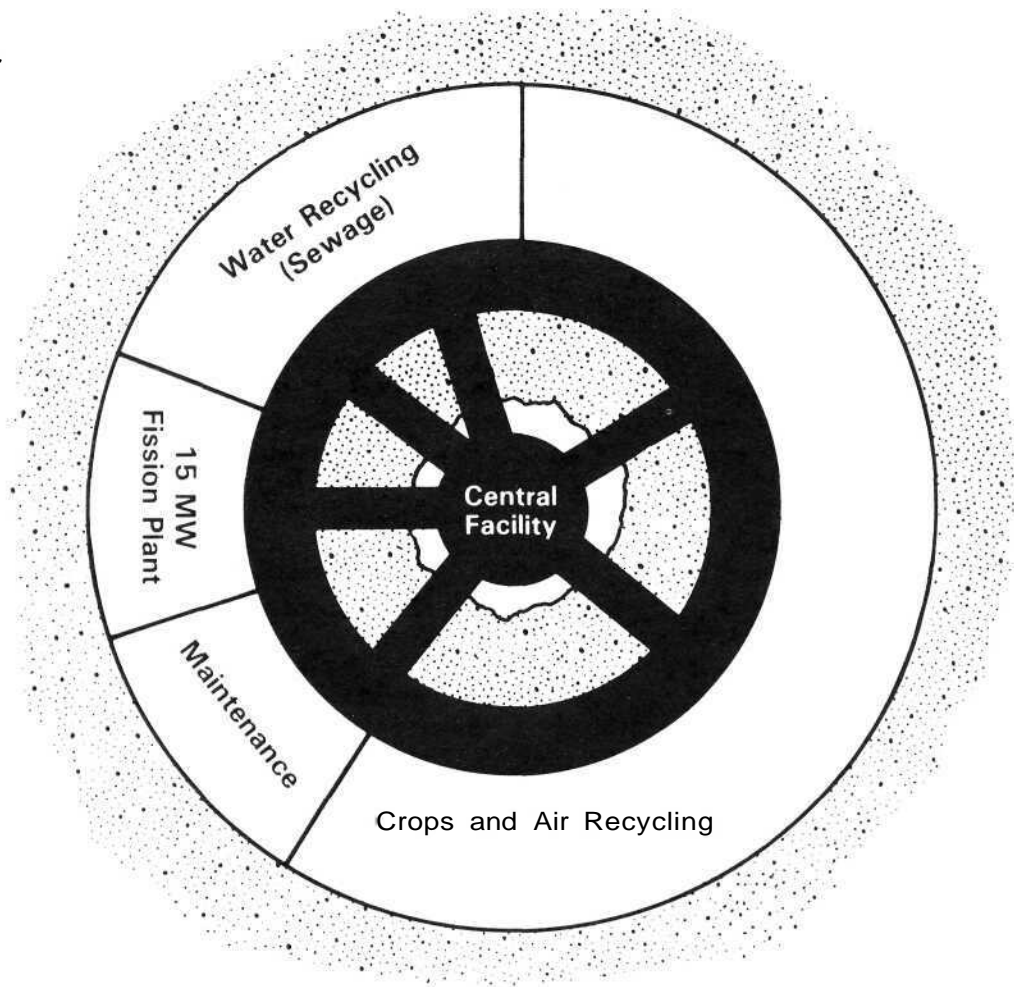


## Fleur-de-Lys



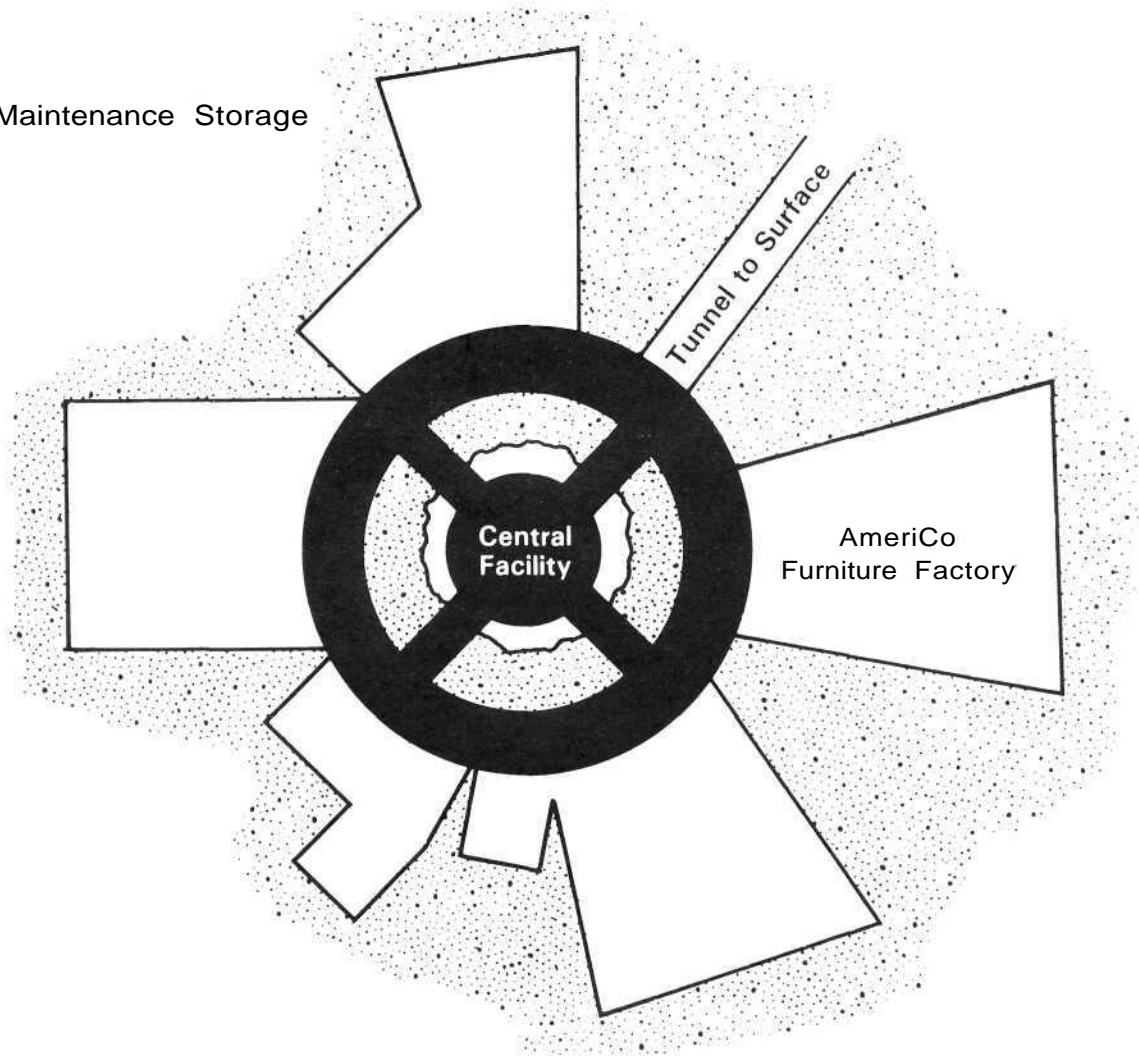
Portes d'Enfer  
Life Support  
LEVEL NINE

10m ↑ N



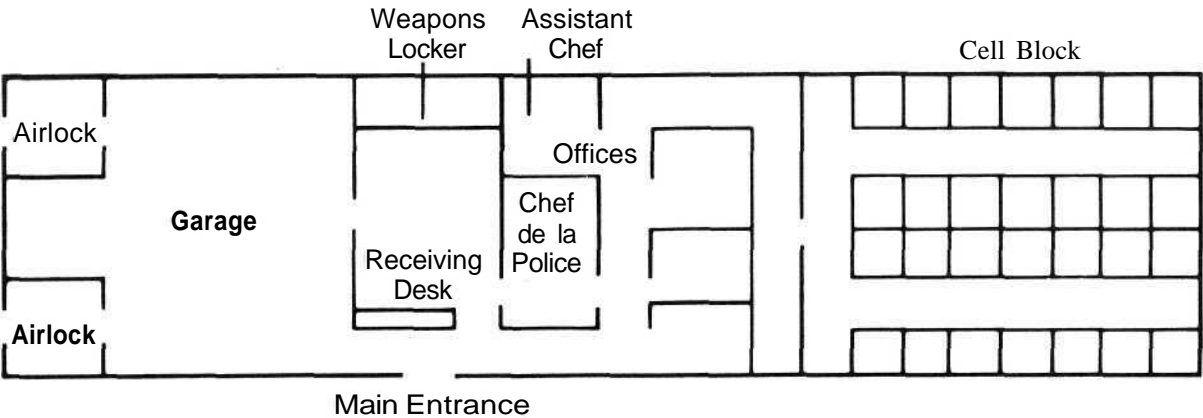
Factories and Maintenance Storage  
LEVEL TEN

10m ↑ N



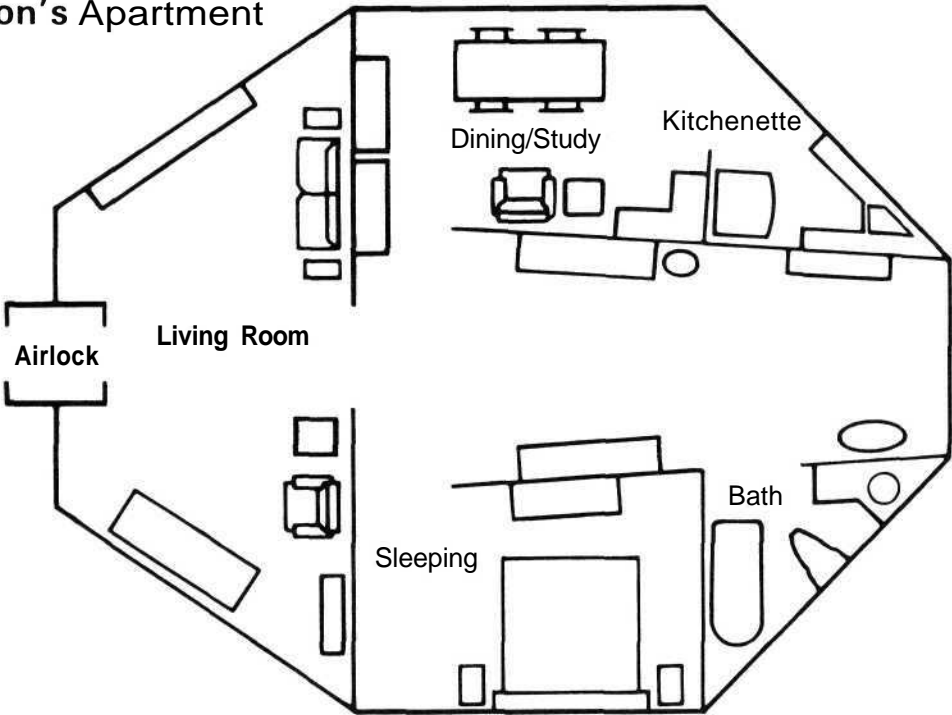
Portes d'Enfer

3 1/2 m



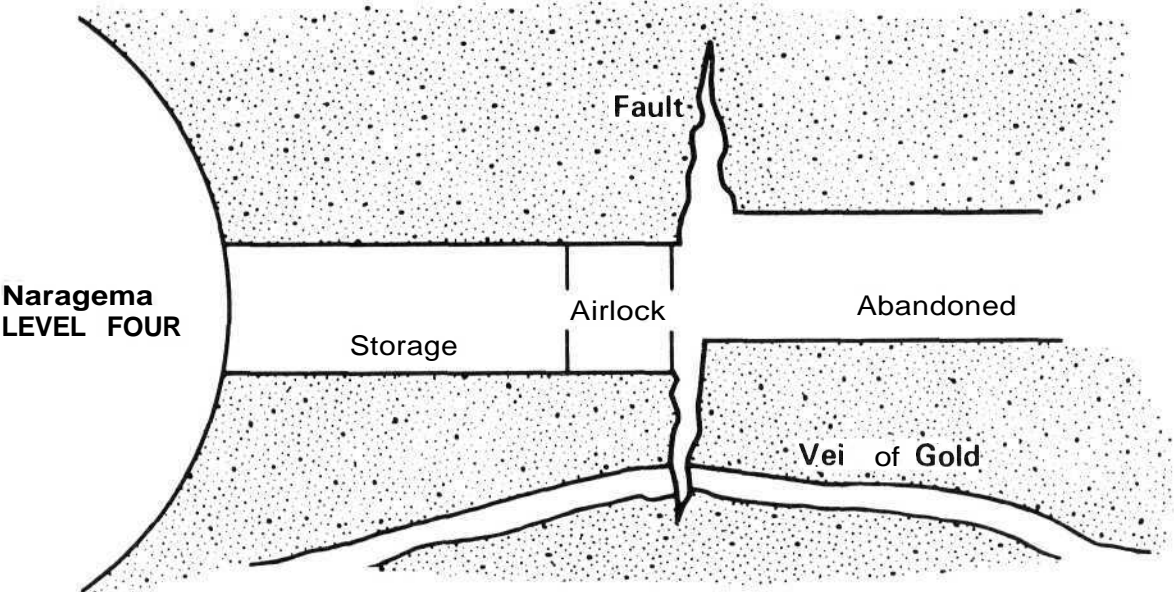
Rita McMorrisson's Apartment

1m N→



Baratawani

10m ← N



Michael Claud-Dunham is an American who has poured all of his effort into making a fortune for himself on Inferno. He has succeeded, not so much by brilliance at business as by ruthlessness and criminal connections. AmeriCo, his business organization, serves as a front for an ambitious smuggling operation which moves items both into and out of the Nyotekundu system.

If the players find themselves on Level Two for any reason, they are likely to be spotted by Claud-Dunham and sized up as possible recruits. Alternatively, Claud-Dunham may be met in any of the more prosperous clubs on Level Eight.

Claud-Dunham is a Green NPC who has never actually faced physical danger. He has a +2 to all Initial Training skills for Smuggler/Pirate, except for those which fall under the Underworld Skills category, in which he has a +4.

**Referee's Note:** In his files, Claud-Dunham has copies of documents which prove that Hiram Ahlhorn has been cleared of charges of embezzling from the bank he worked for on Earth (see the Baratawani encounter). These documents could be found by the players and brought to Ahlhorn's attention.

**NPC Motivation Results:** *Spade Queen:* He will use any means to gain his desire. *Diamond 10:* His desire is to be rich.

### Level Three

Level Three is the first level of domestic dwellings in Portes d'Enfer, as well as the poorest. This level is where the lower and lower middle classes live: people such as the least skilled miners, compound maintenance assistants, workers in the shops on Levels Seven and Eight or the factories on Level Nine, and the like. The corridors of Level Three are laid out as concentric squares, with spokes radiating diagonally from the central facility to the corners, and, as a consequence, the variations in floor level throughout the corridors are more evident (more sections can be seen at one time due to the long, straight reaches). Smaller tunnels have been added between these main corridors over the years in order to provide access to newly dug homes. The resulting warren, with its many strangely angled intersections, can be very confusing to those who are not familiar with this level.

Corridor widths on this level are close to five meters for main corridors and about three meters for cross tunnels, and apartments are laid out with about 25 cubic meters of space per person.

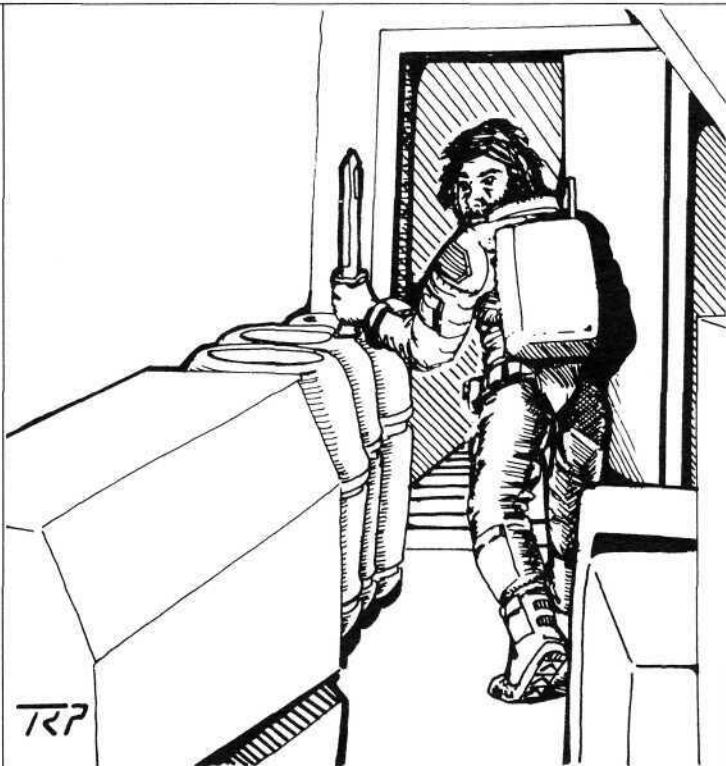
**Encounter:** Desmond Scruggs.

Desmond Scruggs is a wizened old man who was one of the original miners on Inferno. When younger, he tried to set up his own small mining operation, but was unable to make a go of it. As his debts increased and his chances of ever making his operation a success decreased, the pressure began to get to him, and he eventually suffered a nervous breakdown while checking a remote dig. After he had not reported back for 48 hours, Inferno's police went looking for him, and they found him locked in his surface vehicle, raving about "the aliens." They had to tow the vehicle back to Portes d'Enfer before they could coax him out.

After treatment for hallucinations, Scruggs was released into the custody of some friends on Level Three, where he remains. Scruggs wanders the corridors of Level Three, ostensibly on patrol to watch for "natives of Inferno" who might have gained access to the human outpost. He will latch onto anyone who will listen to him for even a few minutes, and he is often able to talk them into buying him a meal or a drink. Very occasionally, Scruggs will accuse a newcomer of being an alien in disguise.

Scruggs is an Experienced NPC with a level 6 in Prospecting, and +3 in all Initial Training skills for Colonist.

**NPC Motivation Results:** *Red Joker:* Scruggs is a harmless eccentric. *Diamond Three:* He is always looking for a handout.



### Level Four

The second level of domestic dwellings in Portes d'Enfer is Level Four of the compound. This level has corridors in concentric hexagons, with spokes staggered so they never run any longer than from one hexagon to the next. Shrubbery has been planted down the center of each corridor and the level shows a high degree of upkeep (floors from section to section are kept close to level, for example). Portes d'Enfer's upper middle class dwells here: people such as very skilled workers and small business owners.

Corridors on Level Four are approximately 10 meters wide, and homes are laid out with about 75 cubic meters of space per person.

### Level Five

This is the final level of domestic dwellings in Portes d'Enfer, and the richest. Its corridors are concentric ovals and are connected by curving spokes. Most of the labor of corridor maintenance in Portes d'Enfer is performed on this level, paid out of a fund created from a fee which is charged to each resident of Level Five as a prerequisite to dwelling on this, the richest of levels. As a consequence, floors from section to section are kept even, and small carts are used to travel along the corridors, rather than necessitating that travel be on foot, as on the other levels.

Corridors on Level Five are nearly 1.5 meters wide, with two central lanes for carts and a pedestrian lane down each side. Lanes are divided by small trees and shrubs, and many sections of wall sport thick growths of ivy. The dwellings on this level are designed with about 150 cubic meters of space per person.

**Encounter:** Rita McMorrison.

Rita McMorrison is famous on the French Arm as an expert troubleshooter. She is in demand. At the present, she is on a vacation and has stopped off at Portes d'Enfer on her way back to Earth. While here, she has been contracted to do documentaries about the Kafers for the inhabitants of Inferno.

It is very possible that the players might recognize her (if they are not familiar with her reputation, they probably will have seen her on Portes d'Enfer's entertainment system). It is even possible, if the referee desires, that she will be aware of the players' reputations as troubleshooters and would be interested in meeting them.

to compare notes.

If the players meet McMorrisson, she will let them know that while on Inferno she has discovered two things which could make a troubleshooter some money, but she wants does not to take the time or effort to follow them up. She would be willing to sell either of these two leads to the players for a very modest sum (the amount is left for the referee to judge from what the players can afford).

The first lead is that she knows that much of the smuggling in Portes d'Enfer is done through the service tunnel which leads from the planetary surface to the factories on Level Ten. The second lead is that someone or something has been stealing small amounts of supplies from the stockpiles in Baratawani, the tunnel at the bottom of the Azanian compound. (For more information on these leads, see the descriptions of those locations.)

Rita McMorrisson is an Elite NPC with a +6 to all Initial Training skills for Troubleshooter.

**NPC Motivation Results:** *Spade 6:* McMorrisson likes being recognized as an expert troubleshooter. *Diamond 4:* She is aware of the marketability of her skills and the value of a buck.

### Level Six

Level Six consists of eight spheres linked in a ring around the central facility. Each of those spheres measures about 40 meters in diameter and has a volume of approximately 33,500 cubic meters. Together, the eight spheres total over 268,000 cubic meters of space. Each sphere is connected by a massive, open airlock to adjacent spheres in the ring, and every other sphere has a spoke which connects it to the central facility.

What the spheres of Level Six hold are parklike habitats containing plants and animals native to Earth (with an occasional sample from another world or two). The plants receive light from immense overhead fluorescent lights and nutrients from a system of pipes buried in the pseudo-soil into which they are planted. The animals live on a diet of what plants they can eat, supplemented by commercially produced feed.

Level Six is at once an exercise area, with hiking trails and the like, and a holiday or vacation spot. There is even some tourist trade from other spots in the Nyotekundu system, especially from the Azanian outpost.

**Encounter:** Harry Lundgren and his Cosmic Circus.

Harry Lundgren is a tall, cadaverous man in his mid-30s who radiates an aura of negativism. Harry decided that being an accountant on Earth was unfulfilling, and he should be in show business or be out exploring the galaxy. He got an inspiration: Why not do both? He informed his wife that he was taking his half of their savings and going out among the stars to collect alien creatures and strange acts to combine into a "Cosmic Circus." His wife said, "I'll see you when you get back."

Harry has since had some success at collecting a real menagerie of strange creatures, but he has discovered that he has neither the knack for business nor for showmanship. He is down to his last few livres, with just enough to buy a ticket back home. Two things are holding him back. The first is that he cannot find it in his heart to simply abandon his animals or his troupe of performers. The second is that he is too proud to return home empty-handed.

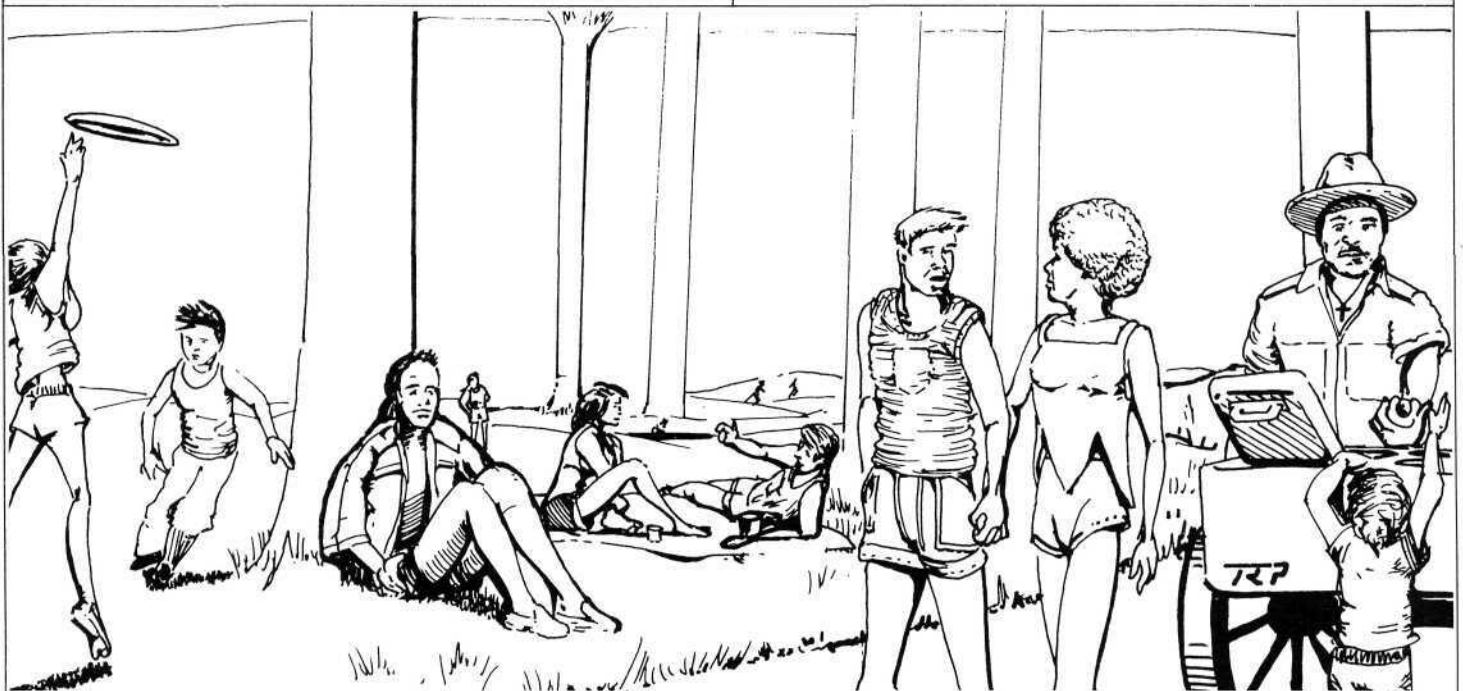
When the players encounter Harry's circus, they will find an attractive set of tents with some fascinating creatures and some very seedy entertainers. There are very few spectators, however (Harry's circus has been on Inferno for several months now), and over the whole show hangs a pall of disinterest. When the players inspect the animals, Harry will approach them and strike up a conversation. Depending upon their response, Harry may (at the referee's discretion) unfold his problems to them. He would be willing to sell the entire show to them for Lv30,000, which is about half of what it is worth, or, if the players come up with another solution (such as: We'll pay your show's passage to Earth for a percentage of your royalties for the next year), Harry will probably be amenable (again, at the referee's discretion).

Harry is a Green NPC with a +2 to all Initial Training skills for Administrator.

**NPC Motivation Results:** *Heart 7:* Harry has a strong loyalty to his animals and performers and will not simply leave them stranded, although he could. *Spade 5:* Integral to Harry's personality is the need to feel he is a success.

### Level Seven

Level Seven is where the citizens of Portes d'Enfer go when they want to spend their time shopping. Level Seven consists of 12 spheres (each smaller than those of Level Six). The volume of Level Seven is 98,400 cubic meters, with each individual



sphere having a diameter of just over 25 meters and a volume of nearly 8200 cubic meters. As on Level Six, Level Seven contains an abundance of plants, but scattered among the greenery is a profusion of shops of all sorts.

**Encounter:** Various citizens in a supermarket.

At some point in their time on Inferno, players will most likely need to purchase toiletries or some such items at a supermarket. When they do, the referee should choose to have a serious earthquake occur. One of the employees of the supermarket will trip the control to seal the place off from the rest of the outpost, and everyone inside will be forced to wait out the emergency.

Normally, unless there is a major breach to take their attention, maintenance teams will work their way through the outpost in half an hour, keying the airlocks back to their normal position as they go. In this case, however, the fission generator on Level Nine has suffered minor damage, and is keeping much of Maintenance occupied. As a consequence, those in the supermarket find the hours stretching on with no word of relief, and the more fragile personalities begin to crack. Sides begin to form: the supermarket employees, people who fear that the Outpost has suffered major damage, and sticklers for rules on the one side; on the other, anarchists, people who are worried about friends and relatives in other sections, and those with incipient claustrophobia (who will probably have to leave Inferno after this experience). The characters may join either side, although the authorities will like it best if they conform.

The airlock can be opened from the store's office, if someone from the second group gains access. It is left to the referee's discretion if the section of corridor beyond has suffered a breached hull.

### Level Eight

Level Eight holds Portes d'Enfer's restaurants, theaters, nightclubs, taverns, and other areas of entertainment. It is where couples and families go to enjoy a movie and meal away from home as well as where miners and other workers relax after a hard day. As a consequence, Level Eight has its respectable areas and its less respectable ones. To ensure that peace is kept, the constabulary of Portes d'Enfer maintains a very visible patrol on this level.

Corridors on Level Eight are about six meters wide, and establishments vary in size from holes-in-the-wall of 75 cubic meters to a concert hall filling nearly 5000 cubic meters.

**Encounter:** Grinor Ferre.

Grinor Ferre (GREE-nor Fair-RAY) is a small, slight travelling guitar player who used to be an Argentinian Marine. He is an excellent musician, conveying especially well traditional South American tunes, and would be rich and famous were it not for his infamous temper. Ferre has been known to take offense at the smallest insult, and is not averse to working out his anger with feet and fists. The fact that his reputation as a brawler has prevented his success as a renowned musician does not help his temper in the least.

The players may encounter Ferre in one of the clubs on Level Eight, where they will see him beat the stuffing out of at least two big bruisers, one of whom mentioned to the other that "the little spic on the guitar ain't bad." Who knows, it might even be the players who make such a comment and have to face him down.

Grinor Ferre is a Veteran NPC with a +5 to all Initial Training skills for Ground Military.

**NPC Motivation Results:** *Club Jack:* Ferre is subject to sudden, violent, uncontrollable rages. *Spade Two:* He is also somewhat of a braggart and wants others to think he is important.

**Encounter:** Pierre Laforet.



Pierre Laforet, or "Big Pierre," is the owner and bartender of the Fleur-de-Lis, a bar on Level Eight. The bar name is a pun on its entrance (a useless addition to the airlock for visual appeal). This entrance irises open and closed, and fleur-de-lis is French for "iris."

While "Big Pierre" looks mean, he is actually a jovial fellow who loves atrocious puns. The players may receive a free round of whatever if they impress him with their word play while surviving his.

Pierre Laforet is an Experienced NPC with a +4 to all Initial Training skills for Independent Trader.

**NPC Motivation Results:** *Diamond 5:* Laforet is a good business man and knows how to make a profit. *Heart 4:* He is also very amiable in his dealings.

### Level Nine

The purpose of Level Nine is life support systems. The level is one large torus with a lumen (the interior diameter of any tube) which measures 25 meters. Total volume of the level is approximately 9650 cubic meters. This space includes a 15-megawatt fission plant which provides all of the power for Portes d'Enfer, a massive sewage treatment facility, pumping equipment for recycled water and atmosphere, a heat transfer system which spreads heat from the factories of Level Ten through the other levels, and (massing twice the volume of these things combined) an extensive agricultural complex which provides many fresh fruits and vegetables for the outpost, while helping to scrub the air.

Corridors on this level are 10 meters wide.

### Level Ten

Level Ten appears to be much smaller than the other levels of Portes d'Enfer. This is because of the fact that although the corridors have an average width of 12 meters, the distance from the center of the central facility to the outer wall of the only corridor ring is only 35 meters (as opposed to Level One, for example, whose furthest ring lies 70 meters from the middle of the central facility). This is deceiving, however, as fairly large factory complexes have been burrowed into the rock beyond the corridor ring.

**Encounter:** AmeriCo smugglers.

If the players find some pretext to enter the factories on this level, they have a chance to find illegal goods stored in the AmeriCo furniture assembly plant (which is just next to the tunnel to the surface, clockwise). Details of this encounter are left to the referee.

**THE AZANIAN OUTPOST**

Although older, the Azanian facilities on Inferno are much less extensive than those maintained by France. The inhabited complex is on the same site as the original survival dome used by the volunteers who remained behind during the *Pathfinder* survey, though it, like the French facility, has burrowed into a cliff wall behind the original base to take advantage of the superior structural and insulating characteristics of cave rock. The cliff wall is part of a large crater of a long-extinct volcano, which the Azanians have named Naragama (Bantu: "The Devil's Eye"). They call their outpost by the name of the volcano.

Naragama houses about 675 people on a more or less permanent basis. It doesn't have the same reserve facilities as Portes d'Enfer, since it has had to grow slowly into its present form rather than being built from the start for a specific function. Still, up to about a hundred transients can be housed in the outpost if the need arises. There are four levels which, as in the French post, are used for exclusively non-industrial purposes. The outpost caters less to the miners than its French neighbor, but several companies do base their operations out of Azanian territory.

The pattern of industrial plants around Naragama is much the same as described for Portes d'Enfer. In addition, the Azanians still run a weather outpost based in an underground facility called Kanyalifeke (Bantu: "The Place of Fire") on the planet's dayside, just over the terminus line. This weather station is also heavily automated, but must be visited by technicians on a fairly regular basis to repair flare damage and keep the station running effectively. An ambitious plan to use a mining borer to create a tunnel road from Naragama to the station was recently abandoned as hopeless. The tunnel is popularly known as *Baratawani* (Bantu: "The Deceitful Road") because of the many false turns and construction delays caused there by Inferno's seismic activity. It is now

completely abandoned, except for a short stretch near Naragama that has been connected to the complex's life support system and is being used for storage.

**Level One**

Level One of Naragama is similar to Level One of Portes d'Enfer, with two obvious exceptions. The first is that it is about half the size, and the second is that its smaller hangar is intended to hold only mining vehicles and the occasional aircraft, not starships. Its landing pad, as well, is obviously intended for small craft.

**Level Two**

Naragama's Level Two is laid out much like a small, Spartan version of Portes d'Enfer's Level Two. About half of the space here is taken up by offices; the other half contains dwellings.

**Level Three**

Unlike Portes d'Enfer, Naragama does not have differently designed dwelling levels for differing income levels. Therefore, Naragama's Level Three is laid out in a manner nearly identical to its Level Two. Upper income in Naragama merely translates into more living space.

**Level Four**

Level Four of Naragama is devoted to Life Support facilities. These consist of a five-megawatt fission plant, a water recycling plant, and an air scrubbing plant.

**Baratawani:** The Baratawani tunnel runs from the lowest end of Naragama's central facility to a point about ten kilometers distant. The majority of the tunnel has bare rock walls, and it is caved in in a few places, but the first few hundred meters have been sealed to hold an atmosphere and are rented out as storage space to many organizations at Nyotekundu.

**Encounter:** Hiram Ahlhorn.

Hiram Ahlhorn is a bank clerk from Stuttgart, Germany, who was convicted (falsely) of embezzling. Rather than face a prison sentence for something he had not done, Ahlhorn escaped to Nyotekundu, and, during a tour of Naragama, broke off from his tour group and hid in the storage area of the Baratawani tunnel. He has been here ever since, living off of stored foods and keeping himself occupied by exploring the tunnel's abandoned stretches. His primary hope has been that his family will be able to clear his name on Earth, so that he will be able to return as a free man.

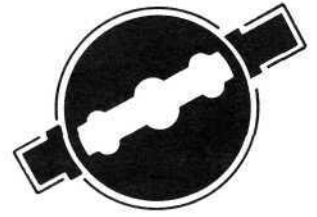
Ahlhorn has had to hide from workers and searchers. Once, he climbed into an opened fault created by a quake and found a vein of gold. He has contacted agents of AmeriCo and has worked out a deal in which they help keep him from being found and supply him with food, and he supplies them with gold ore. Although he does not know it, authorities on Earth have absolved him of blame for the money embezzled from the bank he worked for. AmeriCo would rather that he not find out. Any replacement would expect more than food and protection from searchers.

Ahlhorn will be suspicious of any characters, even if they tell him he has been cleared. They may convince him to give himself over to the authorities, but if they press him, he may become violent. He is armed with a long knife and tools for mining.

Ahlhorn is a Green NPC with the normal levels for Initial Training skills for Administrator.

**NPC Motivation Results:** *Club 2:* Ahlhorn is unlikely to cave in to threats of force. *Diamond 2:* He is interested in returning to a normal, profitable life on Earth and is likely to try to write a book about his experiences when he learns that he was cleared of the embezzling charges.





# Training Mission

*The trip out from home was remarkably unremarkable. It was my first time on a long space flight—I visited Uncle Norm and his family on Broward when I was a kid, and I went on that lab trip to Queen Alice's Star in college—but somehow I expected something more this time. The fact that I've been in the Nyotekundu system once before meant little, since the discharge time took us nowhere near the inner system my last time through. When we got into orbit around Inferno, I realized this was my first trip ever to the hub of the Nyotekundu system, an outpost world with no air to breathe and no water to drink. Charming.*

*But I was surprised by the facilities of the outpost. They're completely enclosed and cut off from the native environment of the planet, but the people have gone out of their way to make their outpost city pleasantly green. Each level has some portion set aside for gardens and such, and the large torus-shaped park is a nice escape from the sterile, cold walls of the outpost. Unfortunately, my company travel orders were quite specific, and they didn't leave any time for sightseeing.*

*Now we're on this courier ship bound for the Andrew Carnegie. Look at these other trainees—they all look a little wet behind the ears, so I guess we must, too. I've read my manuals and boned-up on procedures, but butterflies are about to do me in. There's Cocito—I've been watching it grow and grow. The pilot says the Andrew Carnegie will look something like a big needle as we come up on it. Look, there it is now.*

*This training mission is supposed to last ten weeks. Ten weeks without trees will be hard to take.*

The preceding should be read to the players at the beginning of this adventure—the speaker is another trainee bound for the *Andrew Carnegie*.

In addition to its valuable work of supplying Inferno with ice asteroids for water, the OMS *Andrew Carnegie* is a training ground for many Aberdeen Mineral Exploitation Company recruits. Not only are recruits sent here to become crewmembers of the *Carnegie*, they are sent here to train for OMS operations on all other company-owned stations. The chapter on the OMS *Andrew Carnegie* gives some information on the existence of other OMS stations in human space, most of which are still owned and operated by AMEC.

## REFEREE'S SYNOPSIS

This chapter deals with the possibility that the player characters are in the employ of AMEC and are assigned to the *Andrew*

*Carnegie* for training. Here they will be able to learn about the station and its operations, possibly picking up some valuable skills in the process. They will also be on the spot should the referee decide to involve them in the adventure *Echoes of the Past* later in this booklet.

**Synopsis:** After being recruited by AMEC and sent to the *Andrew Carnegie* for training, the player characters will be welcomed aboard and given a grand tour of the facilities. During this time they will become familiar with the layout of the station and will get to know some of the crew, especially those most closely involved in their training.

The actual training course is broken into four parts, each 1-5-20 days in length. These are spin training, bridge training, EVA training, and maintenance training. There are several narratives which should be read to the players, and each section will present some tasks to be performed by the characters. Also, there is an event in each section which will happen to one player character during that portion of training. Once each section is completed, the characters will move on to the next until all training is finished.

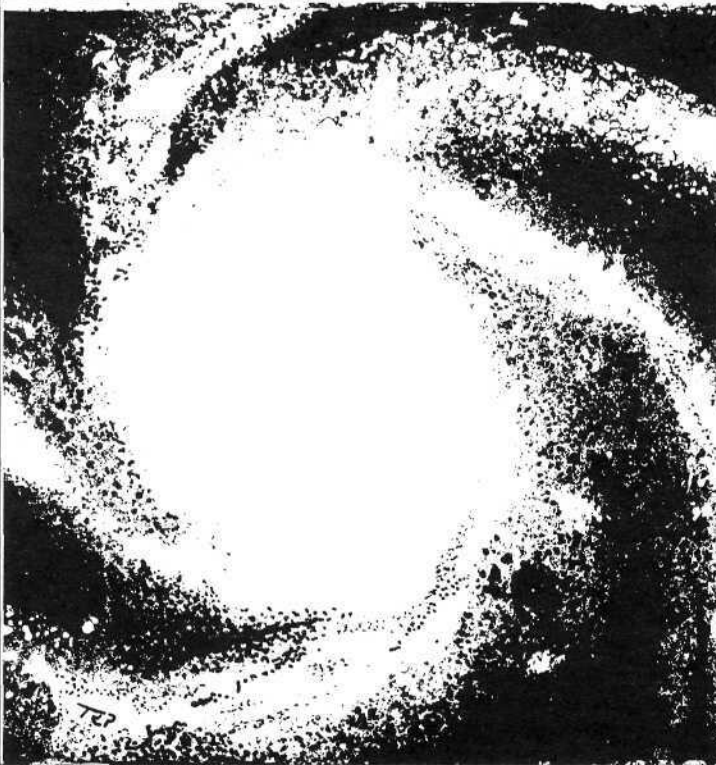
After training is complete, the player characters will be eligible for some skill improvement—rules governing this are presented at the end of this chapter.

## RECRUITING

AMEC sends recruitment expeditions to the universities and colleges throughout human space. Due to a linguistic bias, most recruits come from areas with considerable English or French influence. Of course, most recruits are assigned to positions in the core, where most of the administrative functions of the company are centered. Recruits from the frontiers are usually given some latitude when choosing assignments, and most tend to stay on the frontier. However, it is not uncommon for a core recruit to get assignment with frontier installations, such as those in the Nyotekundu system. A fraction of AMEC recruits ever serve on OMS stations—these positions are considered to be glamorous or to be suited only for frontier ruffians.

**Recruiting into AMEC:** Depending upon the wishes of the referee and players, the player characters can either be campaign characters or newly created characters.

**Newly Created Characters:** Any newly created characters can be automatically considered accepted by AMEC. All of these characters accepted by AMEC are assigned to the *Andrew Carnegie* and will arrive as one block of trainee personnel. For newly created characters, skip ahead to Pay and Benefits.



**Campaign Characters:** Should a group of previously generated characters wish to become recruits and all be assigned together, the referee will have to impose some special rules. It is not the habit of AMEC to recruit groups of friends for permanent assignment together. However, the proper influence can have an effect.

First, each character must be recruited. A character with any Space Crew skills or Intellectual skills of two or greater may apply for recruitment. Recruitment is a task.

To be recruited by AMEC: Routine. Intelligence and Education. Instant.

This can become an Easy task if the character can obtain a letter of *reference* from a previous employer for which the character performed at least satisfactory work.

If the character is successfully recruited, he may petition for assignment to OMS duty. Such a position is not difficult to obtain, provided the character is persistent, since duty on OMS stations is considered by many recruits as menial work. Obtaining assignment to OMS station duty is a task.

To be assigned to OMS duty: Difficult. Bureaucracy. 1 week.

If the character has no Bureaucracy skill, half of Education may be used. Also, this task will become one degree easier if the character can present proof that he has performed some sort of deep-space work in the past and one degree easier if any of his Space Crew skills are level three or greater. If both of these are true, the task is reduced two levels of difficulty to an Easy task.

Should a campaign character be unsuccessful, he must petition to get another chance from the company (a new series of tests, etc.). Petitioning for another chance is a task.

To receive another recruitment opportunity: Difficult. Bureaucracy and Determination. 1 week.

## PAY AND BENEFITS

In addition to any possible knowledge or skills obtained during

this adventure, the player characters are entitled to some pay and benefits by virtue of their employment with AMEC.

**Pay:** Trainees will receive Lv200 per week. They also receive their accommodations and food free, so this is almost all disposable income.

Once the characters have completed training, they will each receive a Lv250 bonus and a pay increase to Lv250 per week. Should the characters stay with AMEC, they can expect a 5 percent pay increase annually and occasional productivity bonuses.

**Benefits:** As long as the player characters are employed at AMEC, they will have six weeks of vacation time each year. These cannot be taken until after training. The characters will have some access to company-owned transport, so they may wish to plan their holidays around company ship schedules.

## WELCOME ABOARD

After disembarking from their shuttle, all trainees will be assembled in the station's gymnasium. The entire complement of trainees will be no more than eight - if there are insufficient player characters to make this number fill in the ranks of recruits with non-player characters. When generating these non-player characters, pay attention to their careers and skills to ensure their placement on the *Andrew Carnegie* is appropriate.

Once assembled, the trainees will be addressed by the station supervisor, accompanied by his deputy and the station's second officer. All three are wearing AMEC company hats and jackets. Read the following speech to the players.

*"Good morning. My name is Supervisor Arthur Crichton. Welcome aboard the Andrew Carnegie." Crichton is obviously a man of considerable physical prowess, but appears to have a head on his shoulders—you have to be smart to get a station supervisory position with AMEC.*

*"You eight trainees are here to learn positions on OMS stations such as this one. I have read through your company dossiers carefully, and I can assure you that your experiences here will greatly influence your next position and your future in the company.*

*"This is Suzanne Guiscard, deputy supervisor on this station." Crichton gestures to a younger woman to his left. "And this is Anna Krueger, the station's second officer." Both women offer friendly smiles and nods to the recruits. "If you have any problems or questions of a general nature, please seek out any one of us. For matters of a more specific nature, the entire station crew will be involved in your training. During your indoctrination you will come to know all of us fairly well, as we will certainly come to know you.*

*"You will now be escorted to your quarters—stow your gear and get settled. Report back here in one hour for further introductions and a look at the station's facilities. Dismissed."*

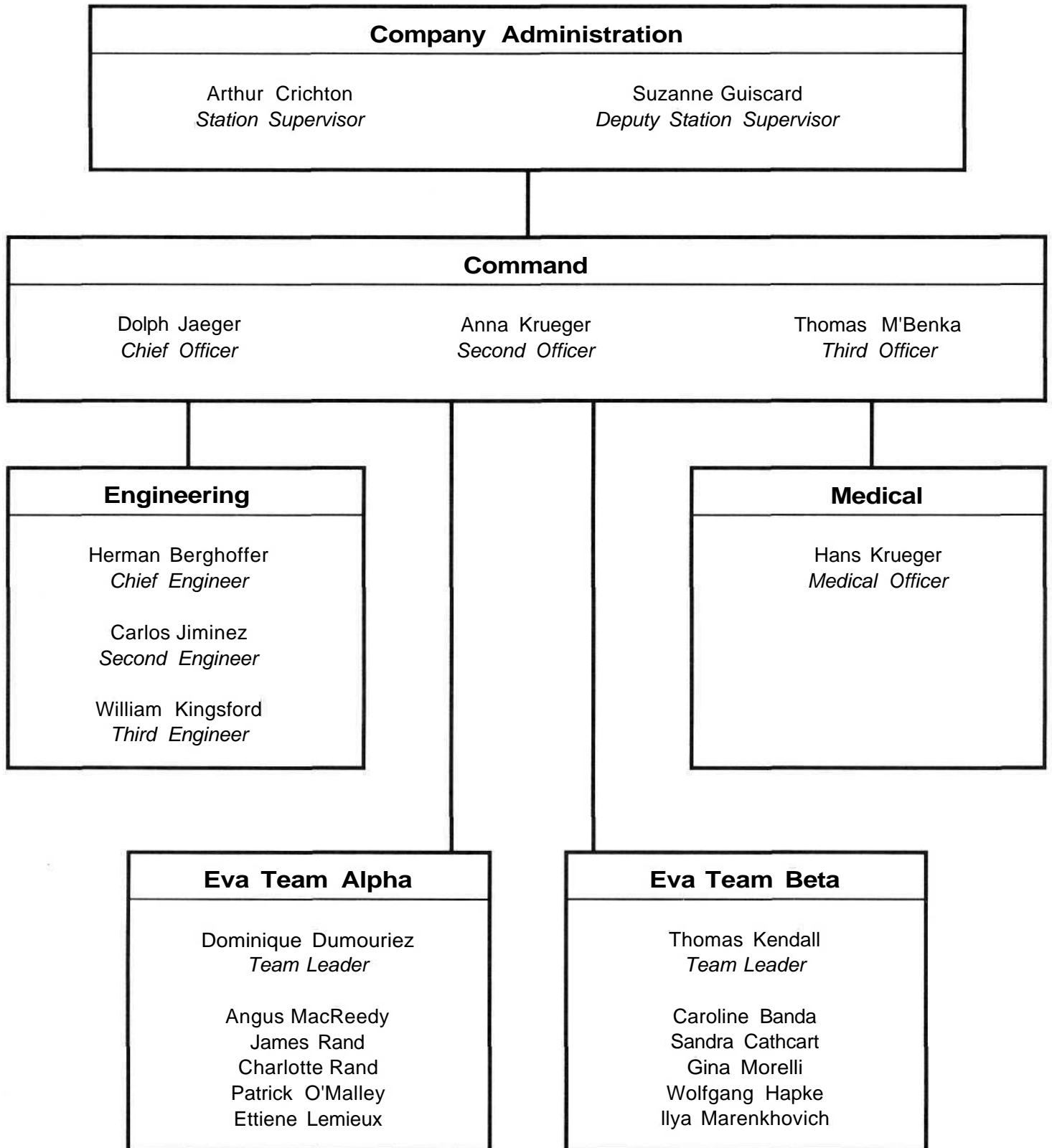
**Terminology:** Space crews are famous for creating their own terminology, especially when referring to their jobs or positions. When introduced to any new space environment situation, such as training on the *Andrew Carnegie*, the characters will have to learn the unique parlance of the seasoned crew already there.

On the *Carnegie* this will take the characters only a few days to grasp. Each of the station's departments has its own nickname or names. For instance, company administration is commonly referred to as "management" or, less flatteringly, the "screws." Station Supervisor Crichton has taken on the nickname of "Boss" among some crewmembers.

The engineering department has come to be known as the "mechanics" or the "engine gang." Chief Engineer Berghoffer is sometimes called the "gang leader," but never in his presence.

Hans Krueger seldom uses his title, and prefers to be known as

# STATION ORGANIZATION CHART



either Hans or "Doc."

The EVA teams and personnel have picked up the handle "spacers" or "miners," titles they are proud to display. Team Beta is generally considered somewhat eccentric and they often display a *bizarre* sense of humor. They have picked their own nickname, the "Expendables." They seem to find it amusing, but nobody else gets it.

Command and its personnel have considerable respect from everyone in the crew. They are referred to by their titles and nothing else.

The new recruits will be termed either "recruits" or "trainees." Of course, the regular crew will undoubtedly come up with more colorful terms that they will keep to themselves.

**Assigning Staterooms:** The trainees will be assigned staterooms in a module adjacent to that which houses the regular crew. This new module will have power, atmosphere control, and temperature regulation provided for as long as the recruits are living there, but no other services will be provided there. For instance, though the new module has a galley, the only galley that will be in operation will be the one in the main module.

Suzanne Guiscard will lead the recruits to their staterooms. The trainees will be given quarters marked Q2A through Q2H, which can be located by consulting the map. Assign the cabins randomly to the eight trainees.

*What to Tell the Players:* The players should be made aware of the general contents of their cabins. Each has a bed, a desk, three chairs, and a table which can be folded into the walls when not in use. Each also has a bathroom and shower.

The computer terminal in each of the trainee staterooms is limited in its abilities. These restricted access terminals can only be used for learning- and work-related activities. They will not access information about detailed company, personal, or station business.

**Personal Possessions:** While the accommodations afforded to the new recruits are rather spacious for deep space (many spacers hope to get double occupancy in a cabin half as large, if they're lucky), there are severe restrictions on what personal possessions may be brought on board. Since the player-recruits will have had plenty of time before making their final journey to the *Carnegie*, they should be allowed to bring whatever items they owned or could have bought in that time. Of course, all items must fit the rather rigid restrictions set forth here.

Since the company will provide work clothing once on the station, recruits are advised to bring very little of their civilian attire. Excess clothing will count heavily against the mass restriction.

**Restrictions:** There are two areas of restriction on personal possessions owned by crewmembers on any OMS station.

1. **Mass:** There is a mass limit of 20 kilograms per crewmember. This is enforced when recruits are brought on board. Material in excess of 20 kilograms will be destroyed on the spot.

2. **Content:** Certain items are prohibited. All weapons, ammunition and explosives are prohibited. Any electronics that are not intended for entertainment purposes are prohibited. Any foreign foodstuffs are prohibited. Baggage will be checked for these items before being brought on board. Failure to comply will result in reprimand and possible dismissal from the company.

Of course, once a recruit has finished his or her training, many of these restrictions are simply ignored. For instance, the mass limitation will go right out the airlock. On an OMS station, especially the *Andrew Carnegie*, there is plenty of room to store excess personal items. However, no matter what rank he or she is, no crewmember will ever be allowed to possess weapons of any sort on the station.

**Introductions:** Once they are settled into their new cabins,

it will then be time for the recruits to return to the gymnasium as a group. When they arrive, they will find, again, Arthur Crichton and Suzanne Guiscard—Anna Krueger is no longer there, presumably having returned to her everyday duties. There is a two-way holo-image projector set up alongside the officials.

Station Supervisor Crichton will begin. The referee should either read this next section to the players or allow them to read it on their own.

*"Welcome back. I hope you have all had time to get your gear to your new staterooms. That particular module of the Carnegie is usually left sealed off and without power—we turn everything back on when new recruits are coming on board since there simply isn't enough room to house us all comfortably in this single module. Let me emphasize, however, that all ship's functions other than your sleep and free time will be pursued in this module.*

*"During your training tour you will have to be familiar with the various departments and department heads on the station. Of course, you have become familiar with station organization from your company indoctrination, provided any of you bothered to look at your indoctrination tapes." Crichton and Guiscard smile at this thought and chuckle, breaking the momentary tension.*

*"So, we'll dispense with a rehashing of material you should already be familiar with, and we will begin with introductions to the department heads and EVA team leaders."*

*The station supervisor motions to his deputy, Miss Guiscard. She moves to the holo-image projector and activates it with a move of her hand, establishing a two-way link with the station bridge. In the background a large man can be made out hunched over a tracking console. In the foreground is an older man comparing a hardcopy printout with his computer screen. Alerted by the holo-projector at his end, the figure puts down his papers and looks out into the room of recruits.*

*"Dolph, this is the newest group of recruits the company has sent us. I thought you would like to address them." Crichton turns the floor over to the holographic image hovering next to him.*

*"Yes," speaks the image, "Good day, I am Chief Officer Dolph Jaeger." The man's accent is heavy, belying his Bavarian upbringing. His face also shows the severe scars of a previous terrible injury—his demeanor is that of a man who would rather be left alone. Gesturing around him he continues, "I am in command of the bridge deck and all ship's operations. Since I'm sure you will all be given a tour of the ship soon, I will be happy to show you the equipment up here that you will need to become familiar with." From his tone it seems unlikely that he will actually be happy about it in the least.*

*Seeing that Jaeger has gone back to his work, apparently finished with the recruits, Suzanne Guiscard adjusts the holo-projector, causing the Chief Officer's emotionless countenance to fade from view.*

*Crichton and Guiscard continue the remote introductions, moving on to the engineering section and Chief Engineer Herman Berghoffer. The engineer's image appears to glower at the recruits, and his comments seem to indicate that he expects little success from any bunch of new recruits from the company.*

*However, Berghoffer's contempt is more than offset by Medical Officer Hans Krueger's joviality. Krueger is in fact not only the head of the medical department—he is proud to point out that he is the medical department. Any officer that insists on being called by his first name can't be all bad.*

*EVA Team Leader Dominique Dumouriez appears to be almost as friendly as Krueger, and is eager to help the recruits in any way that she can. Her holo-image is slightly blurred as the projector strains to reproduce the bright colors of her headband and tunic.*

*Dominique definitely projects a more flagrant personality than her fellow officers—the friction that would be expected must have been overcome by respect for her and her performance as an EVA team leader.*

*A final holo-call is made for the second EVA team leader, Thomas Kendall, but he is nowhere to be found.*

*Apparently finished with the formal introductions, Guiscard continued by passing out documents to each of the trainees.*

*"These are unclassified dossiers on the entire complement of the Carnegie. You should each become familiar with these at your earliest convenience."*

**Referee's Note:** The chapter entitled *Player Dossiers* is a representation of the dossiers handed out to the characters. These should be made available to each player at this time. If necessary, the pages may be photocopied for distribution.

**Grand Tour:** Once finished with the introductions, Station Manager Crichton will turn things over to his deputy, Suzanne Guiscard. She will take the rest of the "day" to show the trainees around the station, introducing them to the rest of the personnel, and getting them familiar with their new surroundings.

**Conducting the Tour:** The station maps of the *Andrew Carnegie* are provided in the center of this booklet. The descriptions of the rooms therein are given in the chapter on the *Carnegie*.

Basically, Guiscard will give a complete tour of the main module, and then take the trainees "down" to the other working areas below. During the tour she will introduce the recruits to all communication and safety equipment in the corridors and rooms. She will also take them through each unique room on each deck. Since the trainees are AMEC employees, they have free run of the ship. But, until they finish their training, they will have little time to take advantage of this.

By the end of the tour, the recruits will have a rough familiarity with the layout of the main module of the station. The players should be allowed to use the station maps to simulate this familiarity.

**Further Introductions:** While on the tour, the trainees are likely to be introduced to each of the other station personnel whom they have not yet met. Use the information in the *Referee Dossiers*

chapter to flesh out these encounters.

In general, everyone the trainees meet will seem fairly normal for long-term station personnel. However, all the EVA Beta Team members will seem to have slightly odd senses of humor—the Expendables like to think of themselves as tame rebels.

**Ending the Day:** After the tour is completed, Guiscard will take the trainees to the main galley where they will have a meal waiting for them. She will inform the recruits that they are finished for the day. Training will begin in earnest early in the morning, she promises, so a good night's rest is recommended.

## SPIN TRAINING

The first training assignment on the *Carnegie* will be spin training. The ability to handle oneself in a spin environment will be a prerequisite to every other part of station training. Fortunately, spin coordination is fairly easy to pick up, and it is very rare that a new recruit fails out of this part of schooling.

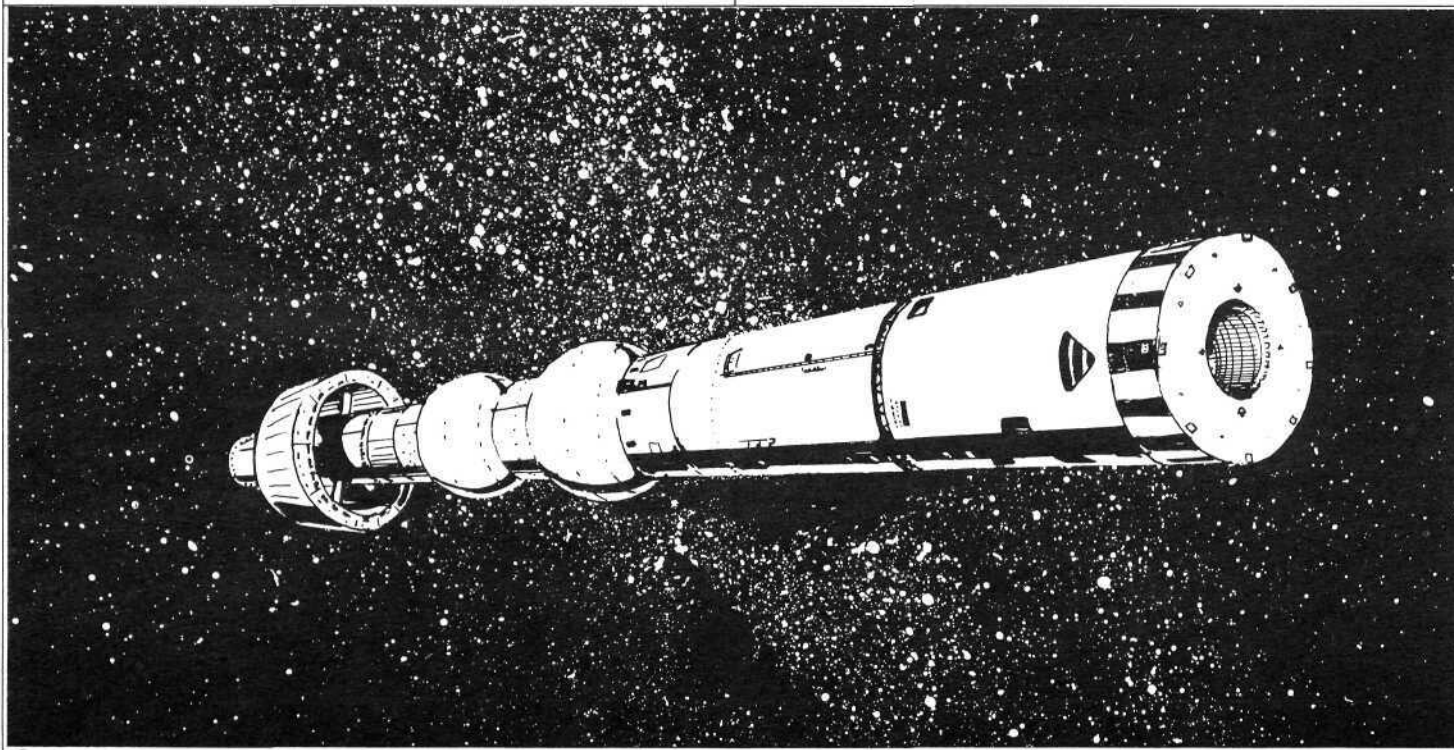
The effects of spin on the station are described more fully under Spin Effects in the chapter on OMS *Andrew Carnegie*. Refer to it for information on what these effects are and how to describe them to the players. This section will deal with how to use the rules presented there in the context of the training mission.

**The Basics:** The first week of this training will find the entire group of recruits relearning basic movement, throwing, and even tumbling skills in the gymnasium. This will be mostly under the patient coordination of Doctor Hans Krueger. Every day of this week the recruits will each have a chance to perform the task "To learn spin operations." That task is repeated here.

To learn spin operations: Routine. Dexterity. Instant.

Through the week the characters, including any NPCs, can accumulate Spin Operations skill. It is applied as described in the Station Life section.

**Beyond the Spin Decoupler:** Only part of the *Carnegie* is in spin. Many tricky operations, such as EVA and recovery work, are in zero-gravity and vacuum. As a supplement to spin training, the station crew will take the trainees to portions of the



ship where there is no spin or atmosphere and show them the basics of operating in that kind of environment.

This particular part of the training process will also take one week to complete. The training will take place in various portions of the main spindle where there is never any spin applied. The spindle sections are characterized by racks and panels of electronics crisscrossed with pipes and conduits—there are also open areas for "maneuvering room." This second week of training will be overseen by the two EVA team leaders, Dominique Dumouriez and Thomas Kendall.

Characters who already have Vacc Suit skill level one or greater will not benefit from the training they receive here. Characters who have Vacc Suit skill level zero can advance to level one because of this training. Characters who have no Vacc Suit skill can advance only to level zero because of this training.

At the end of the week of training, every eligible character must perform this task for skill advancement.

To advance Vacc Suit skill: Difficult. Determination. 1 week.

Success advances Vacc Suit skill level by one for eligible characters. This task cannot be retried.

**Event:** The following brief event will occur to one of the player characters during the week of no atmosphere training on the *Carnegie*. Pick one player at random. There is no character interaction in this event—it is merely designed to give the players some respect for the maintenance robots which maintain the station. Read the following passage to the players.

*Out in the recesses of the main spindle, away from the activity of the ship, things can get pretty lonely. Even with the company of the rest of the recruits and Dominique, being isolated in a vacc suit was making me tense. The chatter on the mikes helped a little, so we talked a lot.*

*Well, I was next up for a leg-launch—that is, to try and push off from the wall of the spindle, aiming to hit a mark on the opposite side over the top of the accelerator core. The total distance of the launch was only around 120 meters, but I muffed it—pretty badly I might add.*

*I went sailing off about forty-five degrees from where I wanted to go, right into a mess of machinery. I was spinning, too, so I got really messed up and started to panic. I got tangled in some piping, and the warning lights were going off in my helmet—a sharp edge must have cut my suit somewhere. My foot was caught, so I couldn't move, and something must have been holding the tear open because the self-sealer wasn't repairing it.*

*That's when I saw movement to the left of me. It scared the hell out of me at first, but I finally realized it was a welder 'bot out doing it's chores. It's laser arm reached out and sheared through a pipe, which let my leg free. By that time Dominique was there to pull me out, and the self-sealer took effect.*

*Those things are sure ugly, but if that one hadn't been there I might have been a goner.*

**Ending Spin Training:** Each recruit passes if he or she has successfully gotten any level of Spin Operations skill. It is not necessary to increase Vacc Suit skill to pass this portion of training. Those who fail will be shipped out, but will get an opportunity to try again with another training group.

## BRIDGE TRAINING

Training on the bridge deck will commence for all trainees as soon as spin training is completed. Bridge training is under the strict direction of Chief Officer Dolph Jaeger, with the help of his

Second Officer Anna Krueger and Third Officer Thomas M'Benka. Jaeger is an embittered person who holds considerable resentment for the recruits—the *referee* should review his referee dossier prior to administering the bridge training section. It is likely that the player characters will have some kind of trouble dealing with the Chief Officer, as described in the event portion of this section.

**Elements of Bridge Training:** The next section is the introduction to bridge operations as presented by Anna Krueger. While Dolph Jaeger handles most of the in-depth training on sensors and other equipment, Anna Krueger is relied upon for most personal interaction with the recruits.

*Bridge operations are actually quite simple. The housekeeping functions for the station are handled from here—of course, you will not be trained in those functions. For our purposes, all bridge training will deal with the ice sweep and our duties during that time.*

*In short, there are three functions we must perform from the bridge during the ice sweep. First, we locate likely ice chunks for the EVA teams. Once selected, we have to direct the teams to those chunks—their navigational sensors are inadequate for the task. Finally, we have to coordinate all emergency procedures. Training will begin with mock simulations, but we will progress in each area toward actual work with the EVA teams on actual ice sweeps.*

**Ice Chunk Location:** The first five days of bridge training will be concerned with the identification of ice chunks. The station's sensors can locate all ice balls within the operational sphere of a particular ice sweep—those balls which are too far away to be dealt with are ignored. The sensors can then be selective within their own criteria about which ice balls are worth taking a look at. The criteria the sensors and computers use are based on the size of the ball and its likelihood of having mineral deposits. Spectral analysis is used to determine this data and to alert the sensor operator to approximately twenty ice balls on each ice sweep approach.

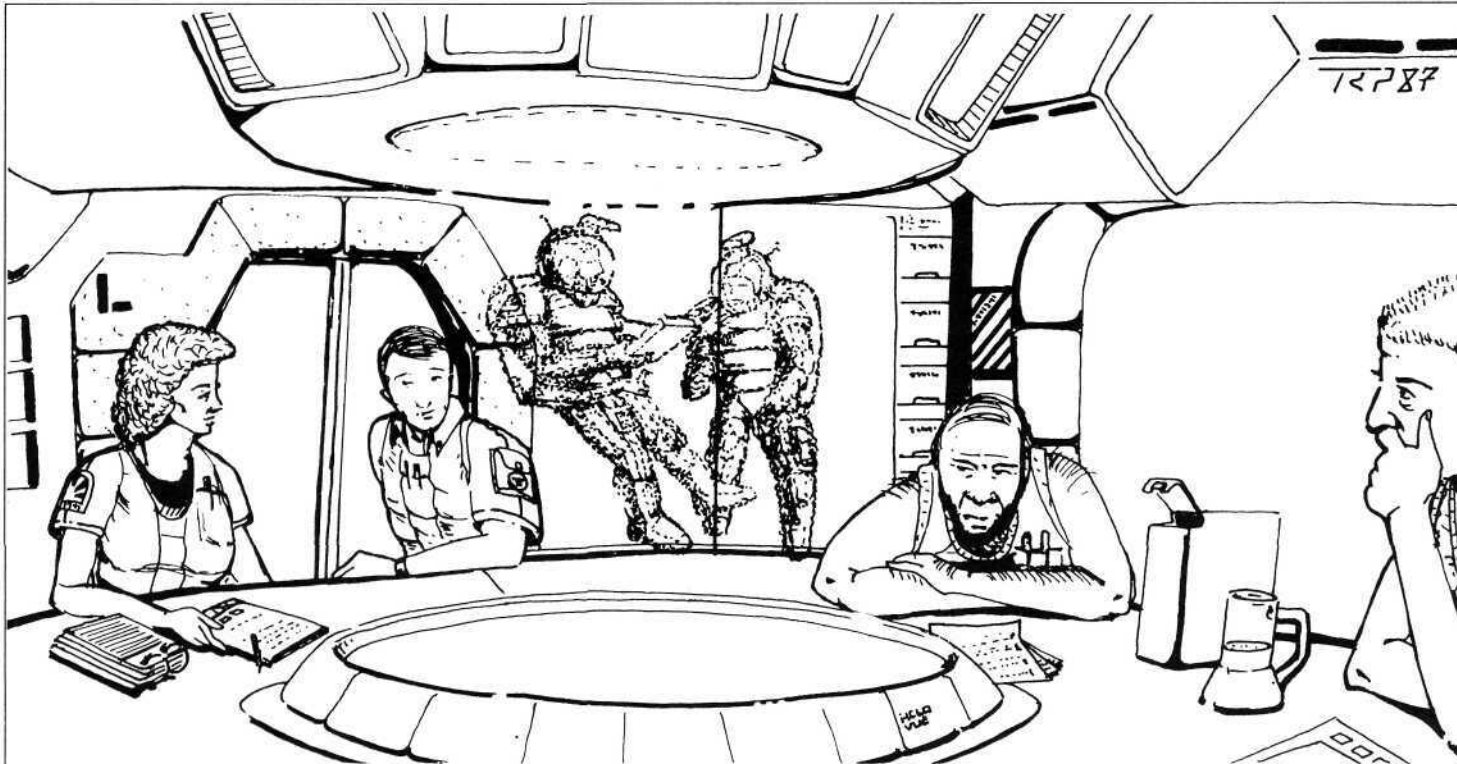
The operation of the sensors is a fairly rote task, but one which the characters will have to become familiar with. During their five days of sensor training, the recruits will be instructed in their use by Third Officer M'Benka, the acknowledged master of sensors on the *Carnegie*. For the first four days each session will include a pass through the ice ring during which time the recruits will practice using the sensor equipment. The final day will coincide with an actual productive ice sweep, during which the recruits will be able to observe the bridge operation while EVA teams are actually outside the station working the ice balls.

It is possible that the player characters will receive some benefit in Sensor skill. At the end of the five days of training, all of the characters who have Sensor skill level zero or no skill level at all may attempt to raise their skill level. Raising the Sensor skill level is a task.

To raise Sensor skill level: Difficult. Determination. 5 days.

Success indicates that a character with no Sensor skill level is raised to level zero and a character with Sensor skill level zero is raised to level one. No other characters may benefit from this brief training. The task cannot be retried.

**Scooter Direction:** The second phase of bridge operations in which the recruits will be trained is scooter direction. The EVA teams rely on scooters to get to the rocks designated by the sensor operator, but the scooters are not equipped to navigate without assistance from the station bridge. The station's navigational computer uses information from its own sensors to help get the scooters to and from their destination.



Unfortunately for the recruits, scooter direction is in the realm of the morose Chief Officer Jaeger. Chief Officer Jaeger will, for the most part, tend to be impatient, contemptuous, and rude to the recruits; he will seem to expect no intelligence out of the recruits whatsoever. This situation should be impressed upon all of the players by whatever means the referee sees fit—they should be made well aware that their teacher is less than pleasant in his manner.

For this particular training mission EVA team Alpha will be outside the ship for each ice pass, working along with Jaeger and the recruits. The two teams switch off with each new batch of trainees to come through (team Beta will be involved heavily in EVA training).

The entire training period for scooter direction will last one week. Each session will coincide with a mock ice sweep, where the station will pass through the ice ring and Team Alpha will be in position, but no actual ice balls will be recovered for processing. Jaeger will guide the recruits through the navigational process of directing the scooters with station sensors. Team Alpha is well versed in scooter handling, so, even if the trainees make mistakes, the scooters will not be in danger—they can more than account for any mistakes the trainees might make, so there will be no injuries during this exercise.

Due to Jaeger's hostile attitude, it is unlikely that any recruits will actually receive any permanent skill improvement from this portion of training. However, it is possible to receive a level zero in Remote Piloting skill for characters who have no skill already. No other characters may benefit from this training. Skill improvement is a task.

To improve Remote Pilot skill: Formidable. Determination. 1 week.

This task may not be retried.

**Emergency Operations:** When several scooters and the station itself are being simultaneously operated within the vicinity of the ice belt, any number of emergency situations may possibly crop up. The members of the crew on the *Carnegie* have

had their share of accidents and emergencies which they will draw upon when training the new recruits. Collision avoidance and the coordinated recovery of injured EVA personnel are the most likely emergency situations, and this section of training will concentrate on them.

Emergency operations training will be coordinated by Second Officer Anna Krueger. It will consist of a series of seminars and computer simulations of accidents and recommended procedures for righting or avoiding them. There is no opportunity during this time to pick up any new skills. However, the characters may use this time to practice their Spin Operations skills. Once finished with this training, the recruits will be better able to handle themselves in an emergency situation. The referee should keep this in mind when such incidents occur in the future.

**Event:** During bridge training (the referee may decide which week), the player characters will witness an altercation between Medical Officer Krueger and Chief Officer Jaeger. The event takes place while the recruits are off-duty in a corridor outside the main lounge. The referee may randomly choose which players are involved, but since they are likely to chum around together after hours, they may all be involved.

**Player's Description:** While coming out of the main lounge, the characters will find Jaeger and Krueger engaged in a shouting match. Details are not clear, but it will become obvious that they are fighting about a woman. Of course, only a German-speaking character will pick up on this, since they have reverted to their native language for purposes of this altercation.

After half a minute or so, the two will resort to fists. It appears that Jaeger threw the first punch, but it will be hard to tell from the angle of the characters. Here the characters must make the choice to either ignore the situation or break it up. If they attempt to break it up, resolve the conflict using the melee combat rules. In any case, the fight will be over with quickly, and no permanent damage will be done.

Station Supervisor Crichton will be in charge of resolving this situation. Any information from the characters will be useful, and their actions (if any) will be commended. If the characters ignored the situation, they might still approach Crichton with what they

know—news of the fight will leak out and the whole station will be buzzing with it the very next day.

Through rumors and their player dossiers, the players should come to understand the tensions between Krueger and Jaeger over Anna Krueger. Rumors will spread that one or the other is planning to transfer off the ship, but these will be unfounded. Arthur Crichton does not want to lose either man, and so will do everything in his power to quell the problem before it escalates into something more.

Also, if the characters do break up the fight, Doc Krueger will make apologies and respect them for their actions. However, Jaeger will not be so forgiving, and he will hold a special bit of anger in reserve for the characters in the future.

**Ending Bridge Training:** Any character who does not have Remote Piloting or Sensor skill level zero or higher by the end of bridge training will be recommended for failure by Dolph Jaeger. Unless Station Supervisor Crichton intervenes, which he might if the player characters have been especially helpful, any failed characters will be returned to Inferno on the next available shuttle. Crichton will realize that Jaeger may have an axe to grind with the player characters and will intervene if necessary.

## EVA TRAINING

The EVA teams are charged with much of the important work done by the station. It is their efforts, using very specialized equipment like the scooter and reaction motors, that secure the ice balls for processing. The procedures are actually rather simple, but the skills necessary are many.

EVA training will be undertaken by Team Beta, the "Expendables." Though traditionally a group of oddballs, the Expendables take great pride in their work and are an ace EVA team, easily capable of training the recruits in the methods of ice chunk retrieval.

EVA training is broken down into three parts, each of these parts being one week in length. These are ice survey, reaction motor placement, and intake supervision. Each of these will require the recruits to accompany Team Beta into the ice fields once every day, learning how to operate the various machinery associated with the job.

**Ice Chunk Survey:** The *Andrew Carnegie's* sensors are adequate to the task of locating potentially rich ice asteroids, but firsthand inspection is still necessary to verify each find. The EVA teams must visit each asteroid before it is certified valuable enough to warrant continued attention.

To confirm an ice asteroid find, the team must get to it using their scooters. With their specialized equipment, the miners then proceed to scan the surface and take core samples. They can determine the mass and variable density of the find using their sonar devices and mass sensors, vital to the actual maneuvering of the asteroid into position. Finally, the miners will bring samples of unusual finds back to the station where they can be analyzed in depth. This analysis must be done quickly before the orbit of the *Carnegie* carries the station out of the ice rings. Some finds can be tagged with electronic transmitters for retrieval during later passes.

During training, Team Beta will make several expeditions to large ice asteroids with the recruits. The trainees will be initiated into scooter use and ice analysis by the various members of the team. By the end of the week, the recruits will be making their own expeditions in groups of two or four to practice asteroids located by the bridge crew.

It is possible to pick up limited Prospecting skill during this procedure. Characters with no skill level whatsoever may attempt to gain a level of zero in Prospecting. This is a task.

To gain Prospecting skill: Difficult. Determination. 1 week.

This skill may not be retried.

**Reaction Motors:** In order to move the asteroids into position so that the *Carnegie* can intercept and process them, the EVA crews must place reaction drive systems on the asteroids themselves. The procedure is very precise, since many variables can send the asteroid in the wrong direction, throw it out of orbit, or perhaps break the asteroid apart.

The reaction motors themselves are each approximately three meters on a side. They are simple, directional, chemical reaction thrusters which will nudge the asteroid into different positions. To place them, the EVA team must excavate a small portion of the ice for stability and fire an anchor into the surface of the ice ball. How many thrusters are needed and where they should be placed are usually determined by hand computers, but judgments on the stability of the motor mount are still very much up to the individual team members. For an asteroid one kilometer in diameter, it is not unusual to need ten or more thrusters to move it significantly.

Once again, due to the characters' work with and placement of the asteroid motors, it is possible for some Prospecting skill to be improved. Only characters with skill level zero or no skill at all may benefit from this portion of the training. Improving Prospecting skill is a task.

To improve Prospecting skill: Difficult. Determination. 1 week.

This task may not be retried.

**Intake Supervision:** When the *Carnegie* intersects its orbit with that of an ice asteroid, intake procedures will begin. Note that the asteroid might have been nudged into position several sweeps ago, only to be caught on this particular pass.

Most intake procedures are automatic, run by the computer system and the magnetic "tractor beam" systems. Presumably, the asteroid will already be in very good position for intake. However, if the asteroid is still not quite in position, it will be up to the EVA teams to reposition it. Also, the teams must be on hand in case of emergency, ready to cut in reaction drive power to avoid collision with the station.

There is no opportunity for skill improvement during intake supervision training.

**Event:** While placing reaction motors on a practice asteroid, a rogue will be detected that will intersect and impact it within just a few minutes. The referee should select any two or four player characters and put them near the collision site—two non-player character recruits will be on the fated asteroid and will have to be found after the collision takes place.

The collision cannot be avoided, and the non-player characters cannot get off the ice ball in time. They will be knocked off the ball violently upon impact and will be difficult to find among the millions of ice particles sprayed into the vacuum.

Trying to locate the other recruits in the ice debris will be a task.

To locate recruits: Formidable. Intelligence. 1 minute.

After the third minute, the *Carnegie* will bring its sensors to bear, and the task will be Difficult rather than Formidable. Once located, the recruits can be brought back to the station for medical attention. They will both have suffered some blunt trauma and shock damage, but will survive the incident.

Any player characters involved in this rescue will be given commendations and a bonus of Lv500 for a job well done. These actions will be noted in their dossiers and may influence future

company decisions.

**Alternate Event:** The referee might want to consider having one of the player recruits be the lucky soul who finds the artifact described in *Echoes of the Past*. If this is the case, the referee will have to rearrange some of the communications presented there and prepare to begin running the events of that scenario simultaneously with the rest of the training mission. Since the recruits will next be involved heavily with Engineer Berghoffer, they will be on hand to witness his radical changes in behavior over the next few weeks.

**Ending EVA Training:** Any character who has Prospecting skill of zero or greater by the end of EVA training will pass. Others will be dismissed unless there are extenuating circumstances.

## MAINTENANCE TRAINING

The enormous *Andrew Carnegie* can only function effectively because of its inherent automated maintenance section. Robot maintenance teams constantly roam the station performing jobs either independently or under the specific direction of the engineering computer or the chief engineer himself. However, major mechanical or electrical breakdowns require the attention of the human engineering staff, though usually supplemented heavily by automated equipment. The humans are ready for such activity; however, the mundane repairing and upkeep of the station is left up to the robots.

The chief engineer aboard the *Andrew Carnegie* is Herman Berghoffer. Berghoffer is a moody individual, but is quite capable of educating the recruits in the methodology of ship maintenance. His demeanor is such that he will not easily become friends with the new recruits, but it is not so fierce that he will alienate the trainees from the tasks at hand.

Unlike the other training sections on the *Carnegie*, training in maintenance is not broken up into nice little blocks. Berghoffer is somewhat less organized than that, and he and his second and third engineers, Carlos Jimenez and William Kingsford, respectively, tend to teach as incidents come up. For instance, if there happen to be several welder 'bots fixing tubing below the decoupler, the entire group will make a "field trip," as it were, to observe. On the other hand, if there is nothing interesting going on, the engineers will not likely go out of their way to find things to do.

This unorganized approach to maintenance training will offer little in the way of rewards for the recruits. There are no skills which can be improved during training. From the point of view of the engineers, which is more or less true, "Anything the 'bots can't handle would require more training than we can give you lads here in a few weeks." There is also no event during maintenance training—things are just pretty boring.

The recruits will, however, become familiar with all of the types of robots on the station. Let the players examine the equipment section on each make of robot at this time.

The one thing the players can look forward to is that at the end of this three-week training section, all training is completed. Incidentally, everyone will pass maintenance training.

## GRADUATION

Once all four training sections have been completed, training is completed. Station Manager Crichton will address all graduates, congratulating them on a job well done, and a party will ensue. This will be the first "wing-ding" to which the former trainees will be invited.

In more substantial terms, graduation means the characters are ready for service on any OMS station owned by AMEC. Also, train-

ing on the *Carnegie* is recognized by other owners of OMS stations, and opportunities may arise in the future to work with some other company on almost identical equipment.

Finally, the characters will immediately receive a Lv250 bonus and a raise to Lv250 per week. It is common for graduates to take leave on *Inferno* for a few days before returning to work—a shuttle will be arranged by company administration well in advance.

Regardless of future assignment, graduates can expect to serve their next eight to twelve weeks on the *Carnegie*. Company administration will take time to process transfer requests, so graduates will be put to work on their training station. Since there isn't much work to do in the Nyotekundu system, the next couple of months will be quite relaxed.

## THE FLOW OF THE TRAINING MISSION

For the referee, running the training mission will require some "fudging" of game time. Forcing the players to live through their training day by day would result in action that would be dull, to say the least.

All of the training sections can be broken down (roughly) into weeks. It would be ideal to run them one week at a time. Essentially, the players will have very little free time during their training, because every week is roughly the equivalent of final exam week.

For every week, inform the players what their basic training will be. They should then be given an opportunity to perform some activities on their own, but these will be restricted in time and scope by the referee. They should also be given the opportunity to make friends among the crew (see the next section). Next, if there is an event listed for the training section, apply it to one of the player characters. Finally, if there are any opportunities for the recruits to improve their skills, let them do so.

This sequence should allow the referee and players to move through the entire training mission in only a few hours of play. Of course, if the characters are undertaking a great many of their own projects, this could stretch the mission out a bit.

## MAKING FRIENDS AMONG THE CREW

During each section of training, different individuals from the crew will be working with the recruits. Relationships between these two elements are usually discouraged, but on a lonely ice mining station the rules are seldom observed. Friendships are bound to spring up.

Relationships are likely to be based on either common interests and background or on romance.

**Common Interests and Background:** Consult the player record sheets of the player characters and compare these to the referee dossiers in the section of the same name. Those which have matches in background, careers, skills, etc., might very well become friends based on these similarities. The substance of the friendship will be up to the referee and the player—role-playing out some encounters would help determine the exact nature of the relationship.

**Romance:** Friendships based on common interest or background can grow into romance, but a romantic relationship can begin for any number of reasons. Such relationships are completely up to the referee and player.

All relationships will help the referee govern some actions and reactions during tense situations. In fact, in the case of romantic interest, the referee might force characters into otherwise avoidable circumstances. In any event, it is important that the trainees become familiar with the crew of the *Carnegie*, especially if they are all to be involved in the adventure *Echoes of the Past*.



# *OMS Andrew Carnegie*

The bulk of the action in this adventure takes place aboard Deep Space Orbital Mining Station 4, the *Andrew Carnegie*. The material in this chapter serves to explain the background, design, and function of that station. It also provides descriptions of certain portions of the interior for use in the adventure *Echoes of the Past* presented at the end of this booklet.

Although the information given about the OMS station is specifically geared toward the *Andrew Carnegie*, the information also applies to other OMS stations built and in use elsewhere in human space. Since all of the stations are basically similar, and, indeed, modular in design, the information about the station itself applies to all examples of OMS station in existence.

**Access to this Information:** The background information in this section can be used by the referee and by players. As with the star system data, though, players are limited in their ability to make use of this material directly. They may read through the section at any time prior to the actual start of the game. Thereafter, they may only consult this chapter again by looking up the information using a computer terminal, or if their characters can "remember" the material in more detail than the players themselves remember it. There is no bar to players taking notes, and a player who can remember information he reads can assume that his character has remembered at least that much as well.

Either of the two ways by which players can consult this material again after the start of the game relies on the use of a task.

To access computer background information: Simple. Information Gathering. 10 minutes.

**Referee's Note:** This task requires a computer terminal or portacomp with a reference chip on the station. These are available only from the station computers or from the files of AMEC on Inferno (or, of course, at other AMEC offices or facilities).

To remember background information: Difficult. Intelligence. Instant.

Information regarding other OMS stations can be obtained in a similar fashion. AMEC keeps careful records of where their stations are and how they are being used, and most of this information is on public record, provided the players make an effort to locate it. Those stations which have subsequently been sold off by AMEC are also, for the most part, in the public eye, and information can be obtained about these as well.

## ORBITAL MINING STATIONS

Earth's natural resources first began to dwindle only two centuries after the so-called industrial revolution. Conservation and recycling techniques were imposed in those days when the only practical sources of materials were stuck at the bottom of Earth's gravity well. Not until the latter half of the 21st century were resources being actively sought and mined off of the Earth's surface in the rest of the Sol system and beyond.

Asteroid and planetary surface mines were constructed wherever rich deposits were located. With the opening of space, literally thousands of potential deposits could be found in any star system, so mining companies could afford to be rather choosy about where they placed their mines. However, these mines were static, unable to move from site to site without the aid of a starship.

A secondary consideration was the nature of each mineral find. Obviously, large planets can have tremendous deposits of all types of minerals waiting for extraction. But planetary surface mines have several drawbacks. First, unless the minerals are to be consumed on that planet, they will have to be transported out of the gravity well, which is a very costly and time-consuming task. Second, surface mines have to contend with the fact, which has to be gotten around, that the ores are locked inside a gigantic ball of rock.

Asteroid and ice belts provide answers to many of these problems simply by their nature. The ores are already out of a gravity well, and they are broken up into tiny pieces for prospectors to examine. The only price to pay for operating in an asteroid or ice belt is that the mine cannot be static—it has to be able to move from find to find. The solution was mining stations which have their own mobility.

Deep Space Orbital Mining Stations were developed during the first portion of the 22nd Century. They were originally intended for the exploitation of the asteroid belt around Sol, but after the discovery of stutterwarp they naturally followed humankind in its quest for the means to use the resources of distant star systems. Not all the systems humanity discovered initially had asteroid belts or ice rings, but enough did that transporting OMS stations to the stars was certainly a profitable venture.

Stations of this type were first put in service by the Aberdeen Mineral Exploitation Company (AMEC), but subsequently similar designs were adopted by several other noteworthy resource extraction concerns, including GulfTex and Westar. The AMEC design set the basic parameters for all the other versions that followed; it is the grandfather of all mobile asteroid mining

stations.

AMEC's first station was built in Earth orbit; it was laid down in 2126 AD and christened in 2129. This was the famous OMS 1 *Robert Fulton*, which worked the Belt for nine decades before being sold to The Royal Society and converted into a Museum of Space Flight (opened 2225 AD) in permanent position at the L-5 LaGrange Point near the ESA colony complexes. Design of later stations varied hardly at all from the *Robert Fulton*; even after considerable technological advances these robust workhorses continued their operation efficiently. Periodic upgrades of interior fittings changed the exterior lines very little.

The *Robert Fulton* proved to its investors the worth of asteroid mining stations. Public opinion swung very quickly from subtle skepticism to overwhelming support for mineral exploitation in space as the *Fulton* began producing ore. When the *Fulton* struck considerable metal deposits in 2136, the price of steel fell by nearly half, and the steel industry did not suffer for it. When AMEC struck a large amount of gold in 2155, federal regulation was imposed on the release of that gold onto the world market to avoid a financial disaster. In just a few decades the *Robert Fulton* paid for itself many many times over, and in so doing set the pace for much of mankind's future in space.

Since the launch of OMS 1, seventeen more stations of this type have been put into service. In that 171-year period four have been lost, two scrapped, and three more sold. Nine stations continue in active service, although one, OMS 4 *Andrew Carnegie*, is operated at minimal levels due to the nature of its assignment. Mining stations do not possess a stutterwarp; they are towed between systems by interstellar tugs. They do have fusion-powered rocket engines for movement within a system, but normally they are placed in a specific orbit for years at a time and use that orbit as the base for their mining activities.

A complete list of AMEC stations, with their fates, is given below:

OMS 1, *Robert Fulton*: Named in honor of American-born English inventor Robert Fulton (1765-1815), developer of the submarine and steamboat. The *Fulton* was the first OMS constructed and was built in 2129. After a distinguished service history, the *Robert Fulton* is now a museum in the Sol system.

OMS 2, *James Watt*: Named in honor of Scottish-born mechanical engineer and inventor James Watt (1736-1819), whose work concentrated on improving the steam engine. Constructed in 2134, the *James Watt* was scrapped in 2265.

OMS 3, *George Stephenson*: Named in honor of English engineer and industrialist George Stephenson (1781-1848), whose main interests advanced the railway industry. Constructed in 2174, the *George Stephenson* is still in service.

OMS 4, *Andrew Carnegie*: Named in honor of American industrialist Andrew Carnegie (1835-1919), who helped pioneer the American steel industry. Constructed in 2184, the *Andrew Carnegie* is still in service in the Nyotekundu system.

OMS 5, *Joseph Whitworth*: Named in honor of English mechanical engineer Joseph Whitworth (1803-1887), who performed valuable work with steel and with the rifling of guns. Constructed in 2197, the *Joseph Whitworth* was lost in 2208 to an asteroid collision in the asteroid belt between Mars and Jupiter in the Solar system.

OMS 6, *Richard Trevithick*: Named in honor of English inventor and engineer Richard Trevithick (1771-1833), a pioneer in the steam power and railway industries. Constructed in 2212, the *Richard Trevithick* was sold to Trilon Corporation in 2250, and is still in service.

OMS 7, *Charles Parsons*: Named in honor of English engineer Charles Parsons (1854-1931), who performed valuable work on

adapting steam power to marine use. Constructed in 2225, the *Charles Parsons* was lost in 2287.

OMS 8, *Jethro Tull*: Named in honor of English agriculturalist and inventor Jethro Tull (1674-1741) who invented a device for drill planting. Constructed in 2239, the *Jethro Tull* was sold to Wellon in 2251.

OMS 9, *Thomas Edison*: Named in honor of American inventor Thomas Edison (1847-1931), holder of hundreds of patents for a plethora of useful inventions. Constructed in 2259, the *Thomas Edison* is still in service.

OMS 10, *Henry Kaiser*: Named in honor of American industrialist Henry Kaiser (1882-1967), a specialist in highway and dam construction. Constructed in 2269, the *Henry Kaiser* is still in service.

OMS 11, *Charles Goodyear*: Named in honor of American inventor Charles Goodyear (1800-1860), inventor of the vulcanization process for rubber. Constructed in 2276, the *Charles Goodyear* was scrapped in 2294.

OMS 12, *Henry Ford*: Named in honor of American industrialist Henry Ford (1863-1947), pioneer of the automobile industry. Constructed in 2281, the *Henry Ford* is still in service.

OMS 13, *Cyrus McCormick*: Named in honor of American inventor Cyrus McCormick (1809-1884), inventor of the mechanical reaper. Constructed in 2286, the *Cyrus McCormick* was lost, probably due to drive failure, between the Beta Canum and Kimanjano systems.

OMS 14, *Benjamin Whitman*: Named in honor of English industrialist and physicist Benjamin Whitman (1977-2073), pioneer of British spaceflight technology. Constructed in 2290, the *Benjamin Whitman* is still in service.

OMS 15, *Lee Iacocca*: Named in honor of American industrialist and politician Lee Iacocca, automobile manufacturer and administrator. Constructed in 2292, the *Lee Iacocca* is still in service.

OMS 16, *George Westinghouse*: Named in honor of American George Westinghouse (1846-1914), inventor and manufacturer of electrical devices. Constructed in 2295, the *George Westinghouse* was lost to catastrophic equipment failure in 2299.

OMS 17, *Eli Whitney*: Named in honor of American Eli Whitney (1765-1825), inventor of the cotton gin and the first to manufacture firearms with interchangeable parts. Constructed in 2297, the *Eli Whitney* is still in service.

OMS 18, *John Ericsson*: Named in honor of Swedish-born English- and American-based engineer John Ericsson (1803-1889), who performed considerable work in both naval and military engineering. Constructed in 2300, the *John Ericsson* has just been put into service.

**Referee's Note:** Those OMSs which are listed as still being in service have been deliberately left vague. The referee can place these stations anywhere he deems appropriate in his **2300** campaign.

AMEC stations are, for the most part, typically named after people who have managed to become prominent figures in the world of either industry or technology. The history of the company as a whole can be read in the history of the mining ships; during the period between 2248 and 2255, several financial setbacks occurred which forced AMEC to sell two of its ships (one of the ships was purchased by the Trilon Corporation; the other one went to the independent government of Wellon around Alpha Centauri). The infusion of some amount of American capital into AMEC is clear from the increased production program that began in 2255-2259, which led to a series of stations being named for people who were figures from American industry, rather than from British industry.

## SERVICE HISTORY

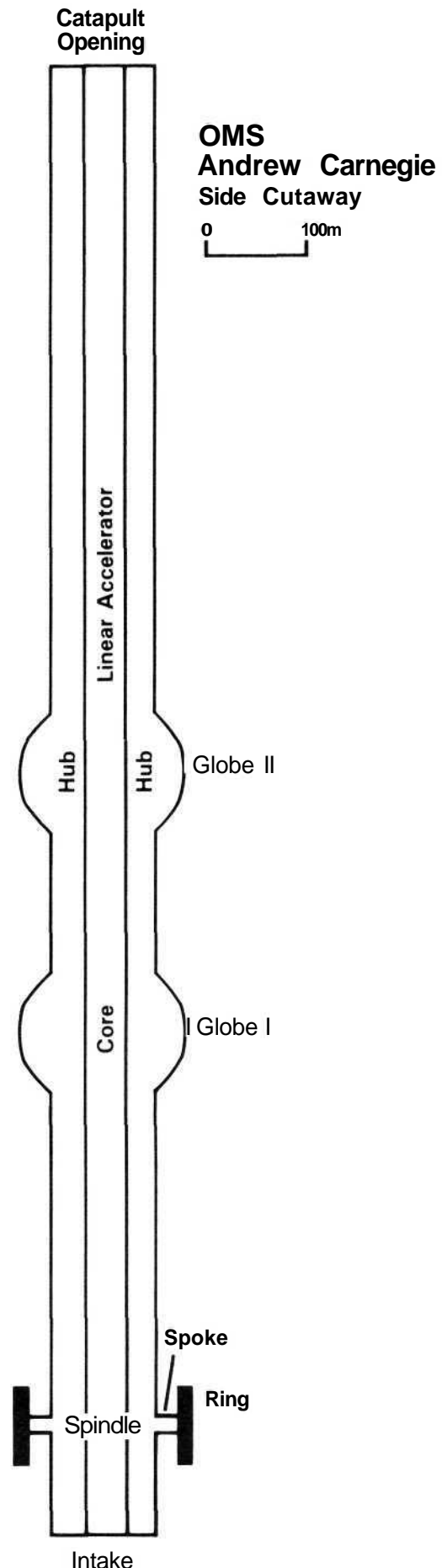
OMS 4 *Andrew Carnegie* was constructed at the Leyland-Whitworth Orbital Engineering Centre in Earth orbit. It was the fourth of six OMS complexes built by Leyland-Whitworth in partnership with AMEC, prior to the breakup of the engineering firm in 2217. The station was laid down in 2179 and christened in 2184. After a three-month period of operational trials in the rings of Saturn, the *Andrew Carnegie* was towed to the Nyotekundu star system by stutterwarp tugs and placed in an eccentric orbit around the sixth planet of the system, the gas giant, Cocito.

Since being placed in the Nyotekundu system in 2184, the *Andrew Carnegie* has not been moved. Its orbit is a highly elliptical one that swings it to the inner edge of the gas giant's 600,000-kilometer-wide ring system at closest approach, then takes it out to a maximum orbital distance of just over one million kilometers at furthest separation. Onboard fusion rocket engines are used for periodic adjustments to this orbit, usually to correct for minor deviations which mount up over the course of several years. On four occasions since entering service the station has been drastically re-positioned in its orbit to take advantage of particularly thick clusters of ice chunks.

From 2184 thru 2203 the station operated at close to peak capacity. This was the period in which the two outposts on Inferno were building up for a full-scale development of planet-based industry, and during this time large amounts of water were needed to gear up the operation and establish reserves which gave the two colonies a margin of safety against the chance of an interruption in service. After 2203 the crew was cut back to minimal levels; routine processing could be carried out by a skeleton crew far short of what a station assigned to high-grade ore extraction in an asteroid belt needed. Most sections of the *Andrew Carnegie* were closed off entirely, with only a single life support module remaining active.

During the period from 2249 through 2260, the *Andrew Carnegie* was also the site of a scientific research facility maintained by The Royal Society for an intensive study of Cocito as an example of a superjovian world. This was a part of AMEC's attempt to weather a period of severe business difficulties; the foundation leased space on the mining station on a long term basis. A research team of thirty scientists was housed in one of the unused living modules for the duration of the lease, together with their equipment. The station's computer banks were upgraded at this time to accommodate the science team's work, and even after the end of the program, remained considerably superior in storage capacity and actual library memory to other stations in the growing AMEC OMS family. The recovery of the company and the end of the decade long observation program came almost simultaneously, so no renewal of the contract was sought on either side.

Since 2287, when OMS 7 *Charles Parsons* was lost after a malfunction of the onboard linear accelerator system, the *Andrew Carnegie* has been used as AMEC's OMS training center. The *Charles Parsons* had filled this role for over six decades in the asteroid belt of the Solar System. At least half of the station crew at any given time is now composed of trainees who have completed some basic work in zero-G mining but need practical deep-space experience to *prepare* them for the more strenuous requirements of service aboard a fully operational OMS. The other half of the station staff is generally made up of top people in AMEC's deep-space mining service with expertise in instruction as well as the actual disciplines needed to fulfill their normal jobs. The nature of the work performed by the *Andrew Carnegie* is such that trainees find it a valuable, but fairly safe, way of picking up the skills they need.



## DESIGN CHARACTERISTICS

*It's hard to judge scale in space, and our first good look at the station didn't really bring home the sheer size of it all. It looked like a slender needle passing through a tiny loop of ribbon; the details were swallowed up by the swirling, multicolored clouds of Cocito looming behind. But when you looked more closely, when you realized that the "tiny" loop was actually a ring over 150 meters in diameter, the true proportions of the Andrew Carnegie suddenly jumped out and grabbed you. A kilometer and a half from end to end meant a lot of room for 21 crewmembers. Maybe too much room—I didn't want to think of what it would be like to keep things running if the maintenance 'bots ever went offline.*

The basic design of the *Andrew Carnegie* and other stations of this type is dictated by function. In essence, the OMS is a long, hollow tube mounting an intake opening on one end and with a linear accelerator running the length of the structure. This tube is designated the *main spindle*. Near the intake end seven *spokes* radiate outward to support a ring-shaped area devoted to living quarters for station personnel. The section of the spindle where the spokes connect to the main hull is known as the *hub*; two globular bulges housing machinery for the accelerator are located along it. The spokes themselves house control areas, a large sick bay, and extensive storage facilities for essential supplies. The diagram of the station shows these various features in relation to one another.

The main spindle extends 1 500 meters in length from intake to catapult head. The hollow portion of the spindle is roughly 25 meters in radius, surrounded by a doughnut-shaped tube which extends an additional 25 meters out at its narrowest points. This gives the tubular portion of the spindle a diameter of 100 meters. Each globe has a diameter of 1 50 meters.

The seven spokes are each 25 meters long, connecting to the ring structure. The ring is only 4 meters from "floor" to "ceiling," so that the outermost rim of the ring is 79 meters from the center of the hub. The diameter of the ring is 1 58 meters, giving it a circumference of 497 meters. The width of the ring is 50 meters. Spokes house such facilities as the bridge, engineering control centers, docking bays for station scooters, a medical station, and storage areas.

The hub is the only section of the main spindle which is pressurized for shirtsleeve operations. Between the hub and the two globes, at a distance of 100 meters from the intake end, a spin decoupler is mounted on the main spindle. Above the spin decoupler the structure of the station rotates, while below the decoupler there is no rotation and, therefore, no centrifugal force. Rotation above the decoupler is at a rate of 3.346 rpm, which gives a gravity of 1.0G at the outer edge of the ring. Gravity decreases gradually as one moves closer to the center of the hub.

The hub houses engineering machinery, life support machinery, and work spaces. A large segment of this area is devoted to compartments where ice chunks are pulled out of the central tube to be melted and then transferred into holding tanks below the spin decoupler. There are also conveyor belts (not used on the *Andrew Carnegie*) which can transfer rock chunks to automated processing plants. In both cases raw materials brought in through the intake port are passed through the hub only long enough for evaluation; processing proceeds with minimal human supervision, and the final products are either stored in the two globular areas below the decoupler or are packaged into metal canisters, passed back into the tube, and then ejected through the linear accelerator on a course that will take the package inward toward Inferno.

The design of the station makes extensive use of modular components. This was a characteristic of all of the first generation OMS facilities at a time when Leyland-Whitworth was also planning the construction of other types of space stations with compatible modules. Later stations were less rigidly based on the modular principle, but retained a certain degree of the concept because of its eminent practicality. On the *Andrew Carnegie*, seven identical modules 72 meters long by 50 meters wide by 4 meters thick comprise the ring, each module being designed to hold 25 crewmembers with their own recreational, eating, and personal storage facilities. In similar fashion, each spoke contains eight decks drawn from a mix of only five basic module types, while the hub consists of a total of 14 pie-slice modules 50 meters by 35 meters by 10 meters in height. It should be noted that a large portion of the main spindle's outer hull is taken up by machinery not normally accessible to the crew. While each of these hub modules is fitted out differently in detail, basic parameters and general features are identical from one to another.

The station is equipped with fusion-powered rocket thrusters for maneuvering purposes. These are mounted on each end of the main spindle around the entry and exit ports. To apply thrust safely, it is necessary for spin to be gradually taken off the ring section. Small, side-mounted thrusters can be used to re-apply spin after a maneuver is completed. As a backup to the onboard fusion plant, a solar array is also available for deployment.

The *Andrew Carnegie* carries generators for a LaFarge radiation screen, an absolutely essential shielding system that protects the crew from the killing radiation close to Cocito. Other features include a complement of two-man "scooter" vehicles—open-frame space sleds which can carry two prospectors on extended EVA missions away from the station—and a variety of maintenance robots specially adapted to a wide range of repair functions on board. A fully operational station of this class can carry a crew of up to 175 men and women for periods in excess of six months without re-supply. Because of its curtailed activities, the *Andrew Carnegie* is crewed by only 21 people with supplies for a year at a time. Most of the modules throughout the ship have been closed off to conserve power and life support and to keep the crew from being spread too thinly throughout the facility.

## INTERIOR FEATURES

The *Andrew Carnegie* (and other stations of the same type) uses a modular layout to make construction more efficient. The station maps on pages 47-50 show specific modules in use aboard the station during this adventure. Other modules of the same type have the same layout, although in many cases these will be out of use, shut down, and sealed off. Such modules do not even have air or power available unless the characters take steps to make these other modules habitable. In other cases the duplicate modules will be in use and are treated as being entirely similar in nature to those shown on the maps. Modular layouts for the *Andrew Carnegie* can be used with equal effectiveness for other OMS complexes in adventures of the referee's own design.

**Standards and Conventions:** In all maps and discussions of the *Andrew Carnegie*, certain basic standards apply.

*Forward* is the direction of the catapult head; thus the station is always considered to be pointing in the direction which loads are being fired. Conversely, *aft* lies in the direction of the intake port. The nautical terms port (left) and starboard (right) are used in a casual fashion aboard the station, but really only apply to directions aboard the main spindle forward of the spin decoupler. Aft of the spin decoupler, in the section of the station under constant rotation, the directions are technically clockwise and

counterclockwise, though port and starboard are still sometimes applied by persons who don't mind a degree of imprecision in their speech. Note that directions dealing with objects outside the station always relate to the relative position of the main spindle; thus an ice chunk might be described as lying "to port" in relation to the current alignment of the station as a whole.

"Up" and "down" are used in the inhabited portions of the station. Up is the direction of the center of the hub; down is outward from the hub, the direction of the station's simulated gravity. Again, nautical terminology prevails; a person going from the bridge in Spoke 1 to the living quarters is "going below." The station as a whole has an arbitrary "up" and "down" for reference purposes, again used in describing the relative positions of objects outside. Usually, to avoid confusion, a precise coordinate system is used for technical purposes, but the colloquial terms are still used in casual conversation.

As far as the maps are concerned, each square represents an area one meter across. Overhead distances vary considerably from one map to another. External and buffer bulkheads are airtight, but most others are not. The doors shown are considered to be simple sliding panels unless noted otherwise; these are controlled by a small panel located next to each door location which contains studs to open, close, lock, or unlock the portal, as well as an intercom. Any door control can be overridden from the environmental control center at an engineering station, unless these exterior controls are overridden (see the section on Onboard Systems). Personal quarters feature a lockout circuit that prevents a door from being unlocked from the outside without a special computer code available only to the station supervisor or his deputy.

**Living Modules:** There are seven identical modules of this type aboard the typical OMS. Common practice on fully staffed stations is to assign modules to different departments: one to bridge and supervisory personnel, one to the Engineering Department, two to interior work crews, and three to EVA crews. Each module has office spaces for the department head or shift supervisor housed in that area, and other rooms reflect strongly the esprit and interests of the group housed there. On the *Andrew Carnegie*, only Module 1 is inhabited (or indeed habitable). This module

is directly "below" Spoke 1, which houses the bridge and other essential services. The station supervisor occupies the "module leader" spaces, while unused quarters have been adapted as offices for the department heads.

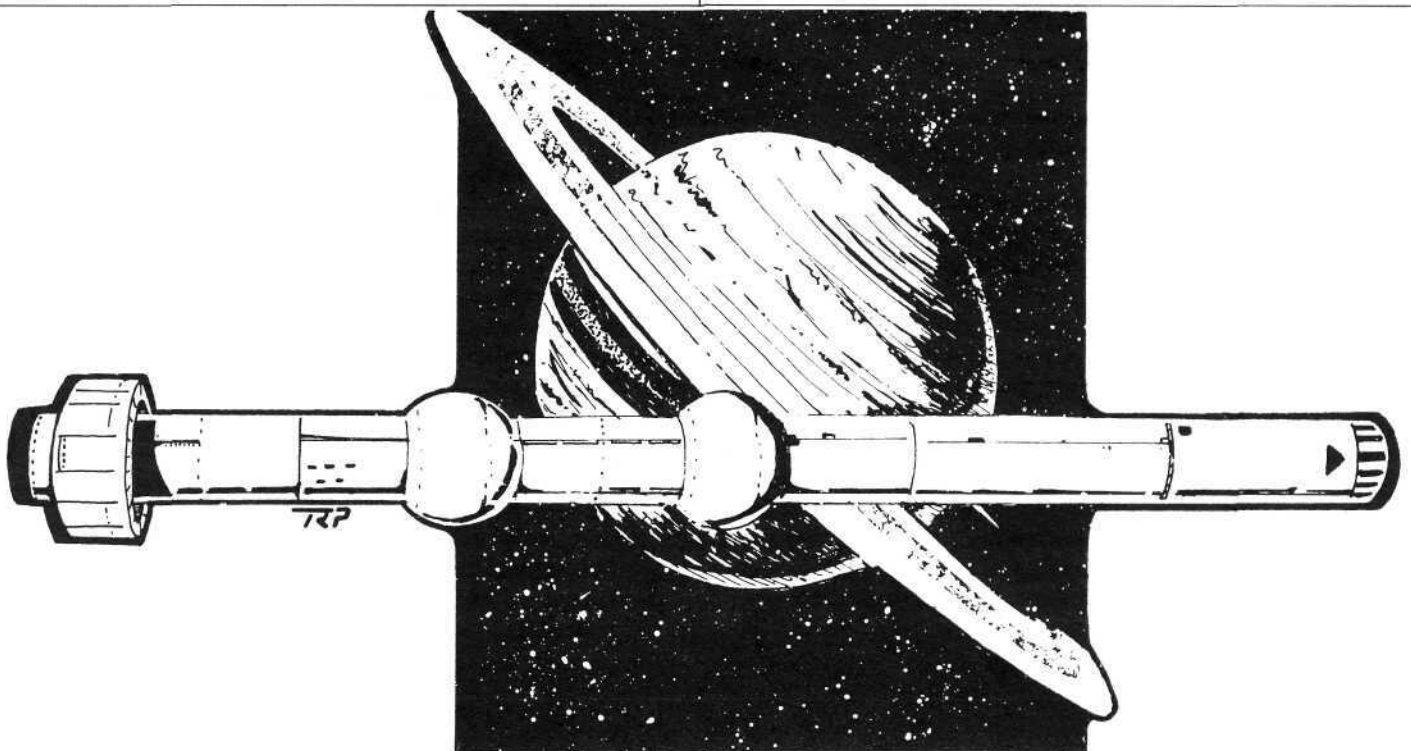
The design of OMS living modules places a maximum value on providing station crews with enough space and comfort to keep them effective over long duty tours. Because power supplies are plentiful and the lifespan of the station is generally long enough to pay back the initial investment many times over, space is not conserved as it would be on an ordinary starship. This permitted the station designers to provide a number of large, open spaces to counteract the essentially claustrophobic nature of prolonged periods aboard deep-space vessels.

The entire ring which contains the living modules is just over four meters thick. The overhead clearance is three meters; the "ceiling" (towards the hub) contains a complex network of conduits for plumbing and ventilation. These lead to all the compartments in a given module, but modules are not interconnected by this system. The same conduits also carry power leads, and make extensive use of datastrip to link every compartment directly to the central computer of the station. Indeed, the datastrip itself contains microprocessor elements that disperse the station computer throughout the complex. Wherever datastrip runs, terminals, portacomps, and other computer tie-ins can be hooked into the station computer to access onboard databanks and services.

The living module of the *Andrew Carnegie* is as follows:

1. *Module Rotunda:* At the center of this compartment is a circular shaft containing four elevators (marked "E") and a wide ventilation/power conduit tube (marked "V"0). Elevator doors are airtight, as are the shaft bulkheads. Deck and overhead panels allow access from the elevators into the shaft, while access panels in back of each elevator allow personnel to enter the ventilator tube to make repairs that station 'bots are unable to carry out.

The rotunda area itself is a large, open room surrounding the elevators. The walls feature photographs and paintings of the station, a gallery of pictures showing all of the supervisors who have served aboard, and glass cases with souvenirs and memorabilia. Most of these are pieces of long obsolete equipment, but there



is also an anomalous lump of blue-streaked crystal found two years ago by prospectors working from the station. It assayed out as a Type III-b diamond, worthless on the gem market but fairly valuable for electronic and industrial applications. Its presence here in deep space is a mystery that has remained unsolved.

The rotunda area contains three small tables and six chairs for the convenience of those waiting for the elevators. Datastrip runs along both the outer walls and the central shaft of the room.

2. *Quarters*: Each of these compartments is fitted out as living quarters for one person. The cabins are compact but designed for maximum use of available space, with fold-out furniture concealed in the bulkheads and overhead. Cabins can be remade from bedroom to sitting room to office to dressing room/head with the manipulation of a few simple controls.

The cabins are labeled on the map with letter codes. Aboard the *Andrew Carnegie* the rooms coded 2E, 2F, 2G, and 2H are not in use as cabins, but have been fitted as offices for the use of Chief Engineer Berghoffer, Communications Chief Jaeger, EVA Leader Dumouriez, and EVA Leader Kendall, respectively. While most of the cabins are single rooms without connecting doors, two pairs (2S/2T and 2Q/2U) have had connecting doors installed between them. These are used by the station's two married couples.

When all of the concealable furniture is in use, each cabin contains a bed, a desk and chair, two other chairs, and a table. Depending on the owner, these furnishings may be replaced with more personalized items. The cabins all have bathroom and shower facilities. Datastrip runs to the desk where there is a built-in monitor and communicator.

3. *Guest Quarters*: These two rooms are provided to house visiting VIPs or excess personnel. At present neither one is in use; 3A contains extra mats and other pieces of equipment for the gym.

The guest quarters are furnished identically to the other crew cabins. However, guest quarters do not have datastrip, nor do they have a computer monitor integral to the desk.

4. *Storeroom*: This storage area currently contains furniture and fittings removed from some of the cabins to personalize them. If stacked to the ceiling, this storeroom could hold up to 72 cubic meters of equipment. Presently, the room is not nearly filled to capacity.

5. *Gym*: The *Andrew Carnegie's* gymnasium area is a large, open area where crewmembers can indulge in a number of individual and/or group exercise programs. Among other things, it is fitted with weight lifting gear, a fencing *salle d'armes*, gymnastics equipment, and a squash/handball/tennis court. It is also possible to rig a portion of the gym as a small swimming pool by raising a partition and filling it with water. As a rule, only some equipment is actually deployed at any given time; the rest remains in storage. Like all large compartments in the ring, the gym floor is noticeably curved, but when spin is applied it seems level as people move across it. The difference between appearance and experience can be very hard for newcomers to get used to. See *Station Life* for some of the more interesting aspects of spin and its effect on games.

6. *Gym Storeroom*: This compartment is used to store gym equipment when it is not deployed in the gym itself. There is a rack of fencing foils, epees, and sabres here, but all these "weapons" are blunt practice blades for competition, rather than actual combat applications. The gym storeroom is typically filled to about one-third of its capacity.

7. *Men's Locker Room*: Contains shower and dressing facilities for the male members of the station crew. Each occupant has a locker which can be unlocked only by using the owner's company identification card. An ultrasonic device in each locker is used

to destroy harmful bacteria which might otherwise become a problem in this closed environment.

There are several benches and chairs in the locker room, as well as a scale (adapted for the spin environment), first aid kit, and an assortment of disposable gymnasium outfits for the crew.

8. *Women's Locker Room*: As above, but used by female crewmembers.

9. *Mini-galley*: These small rooms contain dispensers for drinks and snacks. They are used by crewmembers utilizing the adjacent recreational areas. Tables and chairs are provided, along with an entertainment console including sound, video, and holo cassettes for the enjoyment and relaxation of the crew.

10. *Game Room*: One of several large lounge areas aboard the *Andrew Carnegie*, this compartment contains a number of gaming areas. There are tables for cards, boardgames, and the like, plus pool, ping-pong, and similar gaming facilities. Several computer terminals are also located here for access to computer games. A favorite aboard the station at present is a computer-moderated role-playing game called *En Garde*, which is set in 17th century Europe and appeals to the several fencing enthusiasts aboard. This game is the very latest in role-playing situations in which preprogrammed modules are presented and administered almost entirely by computer, with a human referee providing creative input only when the game strays outside the established path of the adventure.

The gaming room provides seating and tables to accommodate up to fifteen people comfortably. The computers here can be used for official business, if desired, and the room is outfitted with datastrip.

11. *Rec Rooms*: These are smaller lounges containing computer terminals and video monitors. Partitions can be set up to separate groups with differing interests. The rec rooms are used primarily for viewing videotapes, reading, and other such purposes. Each rec room can accommodate up to 10 people comfortably.

12. *Aft Lounge*: This room is set up with comfortable seating for a fairly large number of people. It is used, for the most part, for conversations and other types of socialization. The aft lounge is rarely used by people who are aboard the *Andrew Carnegie* since there are so few people on board. On other stations with full complements more lounge space is needed to allow groups to visit back and forth between modules without overloading the facilities in any one area.

13. *Storeroom*: This storage area contains a full range of components that might be useful in various portions of the module, including datastrip, power cables, electronics components of all kinds, partitions and hull patches, pipes, and so on. There is also in the storeroom area a complete rack of station 'bots, which are able to handle any necessary maintenance and repair work inside the module.

Only station employees have access to this storeroom, and only the station engineers use those items it contains.

14. *Storeroom*: A duplicate of storeroom 13, described above.

15. *Assembly Hall*: In this very large space, a theater-type arrangement is used for holding meetings and presenting occasional crew-produced plays. There is far more seating here than is actually needed aboard the *Andrew Carnegie*. A raised stage dominates the counterclockwise (port) end of the room. In stations with full complements the assembly hall is used much more frequently than aboard this one.

There is considerable sound reinforcement equipment located in the assembly hall. Though most of it is hardwired into the room, it is possible to move certain components, such as speakers and microphones, to other locations on the ship.

76. *Storeroom*: This storage area is meant specifically as a service compartment for the assembly hall. Electronics for the sound system and for audiovisual projectors are stored here. It can also be used as a "backstage" waiting room. A short flight of steps leads up to the stage in the assembly hall.

Only the chief engineer and the captain have access to this storeroom as many of the items therein could be easily stolen and are quite valuable.

17. *Holoroom*: Although most of the compartments in the station are fitted out with viewscreens or even occasional holographic projectors, this compartment contains much more extensive holo gear plus benches, chairs, and the like. Holographic recreations of familiar scenes—woods, beaches, parks, etc.—are projected here to give the crew a taste of home aboard their restrictive metal prison in deep space. The holoroom can also be used to show feature holographic entertainment, and is sometimes used to present holographic training films to trainees on board the *Andrew Carnegie*.

18. *Conference Room*: This is a smaller assembly area intended for high-level conferences among department heads and other senior personnel; on board the *Andrew Carnegie* it is possible for everyone to meet here at once. This room is preferred to the overlarge assembly hall for staff meetings of all kinds. The single large table has seating for twenty; each seat has a computer display/terminal setup.

19. *Module Leader's Quarters*: Aboard fully manned stations, this would be occupied by the department head or senior supervisor responsible for this module. The *Andrew Carnegie's* station supervisor uses this cabin for his quarters.

In addition to the furnishings found in other cabins, the module leader's quarters also has a handprint lock safe for the leader's personal effects and whatever command documents he might have from the company. There is also a private communications link run from these quarters which is independent of the other system communications for the station. This communications link is scrambled for private transmissions between station manager and company representatives elsewhere in the star system.

20. *Module Leader's Dayroom*: This is a sitting room set aside for the use of the module leader on fully manned ships. Aboard the *Andrew Carnegie* it is assigned to the station supervisor. The room has video and audio entertainment, a datastrip computer terminal hookup, a desk, three chairs, and a couch.

27. *Module Leader's Office*: This work area is intended on most stations for department heads and other supervisors to use for record keeping, report work, and so on. The station supervisor uses it aboard the *Andrew Carnegie*. The office has an assortment of chairs, a datastrip-linked computer terminal and a private computer console, voice-lock activated, used for log entries and other sensitive information storage.

22. *Main Lounge*: The center of the *Andrew Carnegie's* social life, the main lounge is given over to comfortable seating for conversation groups of various sizes. There are no terminals or video monitors here; the lounge is a place for bull sessions and debates rather than withdrawal. There are tables, chairs, and a couple of small couches there.

23. *Secondary Lounge*: Aboard most stations, this compartment can either be walled off to provide another area for entertaining and/or conversation, or it can have the wall removed to open the main lounge further. On the *Andrew Carnegie* the extra lounge space is unneeded; the wall is always kept up, and the room itself is hardly ever used for anything.

24. *Galley*: This compartment contains the station's main galley, with complete food preparation equipment. There are both

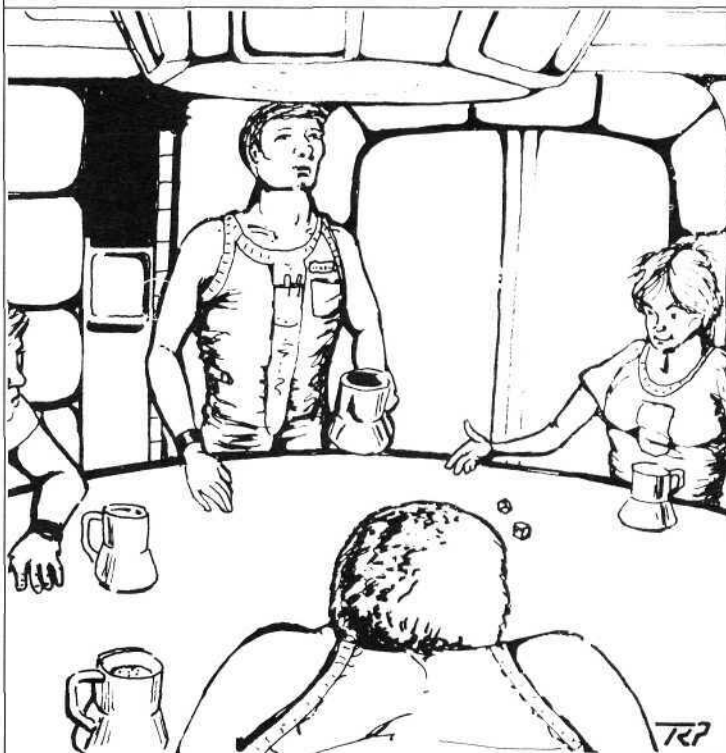
automated systems and old-fashioned appliances, for maximum flexibility. Generally, crews dislike the automated systems (which tend to cater to a "largest common denominator") and have duties in the galley rotate through various people in the module. This is true aboard the *Andrew Carnegie*, where most of the men and women on the EVA teams get a chance to try their hand at cooking at least twice a month.

25. *Galley Stores*: This storeroom contains immediate backstocks of food and staples of all kinds for the galley. It contains a freezer and refrigerator (both very large walk-in models) as well as shelves to store non-perishable supplies. The galley stores are restocked every day or two from larger storerooms elsewhere on the station.

The galley stores are also open to the station population for their private use. It is not at all uncommon for crewmembers, when on leave, to return with a private stock of food for themselves or with specialties that they plan to prepare for their fellow crewmembers. The social status accorded to anyone who can break the monotonous ship's cuisine is recognized by all on board. It is also recognized on a more private level that attention to little things such as cooking can help ease the tension of long service tours. Any such exotic food brought onto the *Andrew Carnegie* is kept in the galley stores.

26. *Mess Hall*: This is the communal eating hall aboard the station. Meals need not be taken here—crewmembers can take a meal to another compartment or to their quarters if they so desire. But the station supervisor encourages eating here whenever possible.

The general issue equipment for an OMS station mess hall is the sort of standard, bland benches and chairs found in cafeterias everywhere. On board the *Andrew Carnegie*, however, the crew has been spared these dull trappings. A former employee on the station, an antique collector herself, located and purchased three table sets dating from the mid-21st century. She had them shipped to the station where they took the place of the standard issue tables in the mess hall. When she transferred out several months ago, she left the tables as a gift to the crew who still enjoy them as one of the few things on the station which wasn't synthesized from plastic.



27. *Workshop*: This area contains several small workbenches with computer terminals and a variety of tools. People assigned to station duty require hobbies to keep them active and interested, and the workshop provides a place where old hobbies can be pursued or new ones learned.

In game terms, the workshop contains the equivalent of a basic tool kit, power hand tools, and electronic repair tools. However, this equipment is mostly locked into position in this room, and cannot be removed for use elsewhere on the station.

28. *Storeroom*: This storeroom contains supplies for the workshop, including art supplies, electronics components, and spare parts. The range of gear stowed here is quite large, although as this adventure takes place some items are running low because it has been several months since the last supply ship brought replacement gear.

29. *Buffer Bulkheads*: The bulkheads separating modules from one another are especially thick, having three distinct walls in all, which are split up by a foam filler that hardens when exposed to vacuum. This elaborate system is designed to contain pressure drops to individual modules whenever possible.

30. *Airlocks*: Triple airlock doors link the modules together. Although they are normally kept closed (especially aboard the *Andrew Carnegie*, where the adjacent modules have been depressurized) it is possible to open all the doors at once. This requires a special override command from the environmental controls in the Engineering Control Center. A person moving on the map from one module would enter the next module from the opposite side of the map from which she left. (Think of the module map as a section of a picture which scrolls sideways, only to eventually loop back to meet itself after one goes completely around all the modules.)

31. *Aft Viewports*: Sections of exterior bulkhead along the aft end of the ring house full-wall viewports. Actually, these are not transparent sections of the bulkhead at all, but rather large video screens. They can be set to either repeat the external view as seen from that point, produce an exterior view from any other camera mounted on the station's outer hull, or play any of several homey, Earthbound scenes instead. Some crewmembers, particularly new chums on their first tour, find the "direct" view disconcerting, because of the constant motion imparted by the spin. Very few veteran spacers, though, will ever admit to preferring "Winter in Paris" to a view of the naked stars outside.

32. *Fore Viewports*: These are essentially identical to the viewers noted previously, except that the "direct" view is over the station's bow. Note that there are no rear cameras that do not show spin (because everything aft of the decoupler spins most of the time), but forward views taken from cameras beyond the decoupler do show a view "ahead" of the ship that doesn't spin.

**Spoke Modules**: Seven spokes connect the ring to the main spindle, one spoke linking to each living module. Each spoke is made up of eight separate decks. These decks are modular in nature, with five basic types going into the construction of each spoke. Normal practice is for a given OMS to have only one spoke mounting bridge and engineering control areas, while all other spokes contain decks devoted to cargo, scooter docking bays, and medical facilities. The *Andrew Carnegie* sticks to this design philosophy, with Spoke 1 holding the control facilities. Spoke 1 is just "above" Module 1, the inhabited portion of the ring. The other spokes are accessible, but only the cargo decks are generally used.

Unlike the living areas aboard the OMS, the spoke decks are purely functional in nature. There is no wasted space, and indeed some of the areas are quite crowded. Vast open spaces would be

extremely inefficient for the sort of work the OMS is designed to perform.

Each spoke deck is three meters from deck to overhead. At the point where the spoke joins to the hub there is an extra meter's thickness of structural reinforcing. Unlike living modules, spoke modules do not have perceptibly curved decks. Ventilation and access ducts on these decks are much narrower than in the living modules, and are not wide enough for a man to move through. There are, however, more ducts to compensate for this smaller size. These provide a *degree* of redundancy in the linkups of power cables and datastrip.

Specific features of the spoke module decks found on board the *Andrew Carnegie* are described below.

**Access**: In general, only station crew are given access to the spoke decks. These decks are characterized by duty stations and operation equipment, items only important to the station's crew. In the rare event that there are other people on board an OMS station, they are usually requested to avoid the spoke decks in all but emergency situations.

**All Spoke Decks**: "E" stands for an elevator. The center of each spoke deck contains four elevators, two with wide doors and two with standard doors.

"V" stands for ventilator. This is the master ventilator shaft/access tube leading from the re-circulation machinery in the heart of the hub downward through each spoke to the ring modules.

**Bridge Deck**: There is one bridge deck in Spoke 1 of the *Andrew Carnegie*. No other spokes include a bridge deck. It is located on the spoke deck directly above the living module.

**B1. Monitor Center**: The central core of this deck surrounding the elevators contains a series of wall display screens and master terminals. From here it is possible to monitor the status of all ship-board systems, and to watch any activity in work or public recreation areas. The center is not normally manned, but a watch officer can consult any aspect of the ship's operation from this one place rather than having to disturb the personnel on duty elsewhere.

**82. Intake Operations Center**: The trickiest part of OMS operations is the coordination of prospecting teams bringing chunks of rock or ice on board through the intake in the stern of the station. This control center is used to monitor these activities. Controls here feature extensive sensor displays, course projection boards, and comlinks to prospectors on EVA. The center is manned continually during an ice sweep.

**63. Maneuver Control Center**: Controls for the station's maneuvering thrusters are here, along with navigational stations, sensor displays, and controls to monitor and alter the station's spin. The master controls and monitors for the LaFarge radiation screens are also in the maneuver control center. It is manned only during actual maneuvers.

**64. Catapult Control Center**: This portion of the bridge monitors the linear accelerator, with work stations to control the aiming and firing of the catapult. There are also monitors here that oversee the operation of automated extraction and processing plants in the main spindle. It is manned only as needed, such as when a catapult load is being prepared.

**65. Communications Shack**: This small compartment has just enough room for a single watchstander to operate the controls that coordinate communication with the station's home base. Aboard the *Andrew Carnegie* a single bridge watchstander is on duty here at all times; he not only can monitor incoming calls, but also has other station status information relayed to his position here.

**86. Computer Room**: The master terminals for the station com-

puter are housed here. All computer-controlled functions originate in this compartment, and unusual or difficult programming is carried out in this room.

**Medical Deck:** There is a single medical deck in each spoke of the OMS. On the *Andrew Carnegie* only the one in Spoke 1 is even habitable. It is located on the deck immediately above the bridge on Spoke 1, and on the lowermost spoke deck in all other spoke modules. True to the generally nautical terminology used on the station, this deck is usually referred to generically as the sick bay.

**ML Waiting Room:** Crewmembers awaiting minor treatment or news of injured comrades can wait here.

**M2. Medical Office:** The records for the medical deck are maintained here. There is an examination table and the usual paraphernalia of the medical profession. On fully manned stations each medical deck would be supervised by a nurse or orderly (often extra duty for an EVA specialist not actively involved in operations outside). A single doctor would coordinate all medical activities aboard. On the *Andrew Carnegie* there are no nurses or orderlies, and the station medical officer uses this office for all record keeping and general duties.

**M3. Medical Stores:** Medications, first aid supplies, medical support equipment and expendables are stored here.

**M4. Ward:** Six beds are located here for the confinement and treatment of patients who cannot be moved to their own quarters.

**M5. Surgery:** This is a small but well equipped operating room. Most of the injuries which occur on an OMS are in the nature of minor first aid emergencies—broken bones, minor decompression, bruises, and so on. Still, occasions do arise when full fledged surgical intervention is necessary. This section is fitted out to handle most routine operations and a few nonroutine ones as well.

**M6. Lab:** The station's lab is primarily devoted to pathology and simple pharmacology functions. It is not well equipped for major research tasks, since it is supposed to be used for nothing more complicated than the diagnosis of some routine disease or the creation of specific and fairly common drugs for treatment of the same.

**M7. Isolation Ward:** The spread of a really virulent epidemic is one thing all spaceship and outpost crews fear most, and the confined spaces of an OMS are particularly at risk in such a situation. In theory, all newcomers are so thoroughly screened and immunized that nothing could possibly get loose on board, but there are a certain number of chronic or recurring diseases which simply cannot be caught in this manner, especially with the number of new or mutated strains discovered since humanity reached out into space. In case of an infection of this type, affected crewmembers are placed in the three-bed isolation ward for observation and treatment. When there is no problem with infectious disease, the isolation ward can be used instead to handle overflow from the regular ward.

**M8. Airlock:** This compartment directly connects one elevator with the isolation ward. If a crewmember is brought in showing symptoms of a dangerous disease, he can be taken to the ward without exposing the rest of the medical deck to contamination. In such a case, the elevator would be thoroughly sterilized and taken out of service until all risk of further infection was over.

**M9. Medical Stores:** This is a second medical storeroom, essentially similar to 3. However, it can function as an airlock for access to the isolation ward, and in addition to all other supplies contains a set of three isolation suits to be worn by visitors to that ward. There are also pressure litters here which can be used to transport an isolated patient to a rescue ship or elsewhere on board without contamination risk.

**Cargo Deck:** Four identical cargo decks are located in Spoke

1; each other spoke contains six such decks. All of the cargo areas aboard the *Andrew Carnegie* are used, even those in unoccupied spokes, but only those in Spoke 1 are fully stocked at the start of each tour. Others are used to contain overflow supplies. In Spoke 1, the two decks above sick bay are cargo decks, as are the two decks below engineering.

**C1. Cargo Holds:** Each of these compartments contains a mixture of various types of station consumables and replacement parts. The mixing of contents is a deliberate precaution against an accident that might knock out an entire hold, such as collision or fire.

**C2. Cargo Doors:** Four of the eight cargo holds have clamshell doors opening to space. Fresh supplies can be transferred directly to these holds through the doors. This is a tricky operation which requires great precision in matching vectors with the spinning spokes on those rare occasions where the station does not shut down spin during the operation.

**Scooter Bay:** One scooter bay is located in each spoke. On Spoke 1, it is located above the two lower cargo decks and just below two additional cargo decks; on other spokes there are three cargo decks above and below it. Aboard the *Andrew Carnegie* the Spoke 1 scooter bay is the only one which is in use. The others do not even hold scooters, and all power to the bays has been cut off.

**S1. Main Bays:** There are four separate scooter docking areas on each scooter deck. Each area holds four two-man scooters. These small, openframe space vehicles are described in more detail in the section on Equipment. Each docking area can be independently depressurized to release scooters for prospecting and other EVA work.

**S2. Airlocks:** Scooter docking areas are connected to one another through airlock compartments.

**S3. Bay Doors:** These clamshell doors can be opened to admit or release scooters or personnel into space. When spin is on the aft portion of the station it is very dangerous to attempt maneuvers in and out of the bays; usual procedure calls for spin to be taken off before EVA operations commence. However, some of the better EVA teams have been known to dock or release without waiting for the spin to be killed, and pride themselves on their ability to handle a scooter in this most difficult of maneuvers.

**S4. EVA Lockers:** Each docking area contains two EVA lockers, which contain spacesuits, extra oxygen tanks, prospecting gear, and other necessary equipment for extravehicular excursions.

**Engineering Deck:** Spoke 1 contains the only engineering deck aboard the station. It is located at the point where the spoke joins the hub, and thus is the "highest" of the spoke modules. It also has the lowest gravity, which is useful to engineers working in the workshop area with bulky pieces of equipment. A qualified watch engineer (and, perhaps, members of EVA teams with backup training in electronics or other useful skills) stands watch on the engineering deck at all times. There is no specific duty station which is always manned; the watchstander can work in whichever area he needs to and be alerted if an emergency comes up elsewhere.

**E1. Drive Monitor Center:** This section contains monitors and controls relating to the OMS maneuvering thrusters, radiation screens, and navigational controls. It is possible to reroute the actual control functions to these panels instead of the bridge. See the section entitled Onboard Systems for more information on this.

**E2. Catapult Monitor Center:** Monitors and diagnostic readouts on the linear acceleration system are contained in this compartment. As with the drive controls, the catapult can be rerouted for control from here if necessary.

**E3. Workshop:** This compartment contains a workbench and several racks of tools and components. It is used for all sorts of

routine repair work on everything from robots to scooters to vacuum suits. Also present here is the rack containing the maintenance robots which care for the spoke decks.

**E4. Environmental Monitor Center:** All of the actual environmental machinery is located in the hub, but the consoles here monitor all aspects of station environment. Among other things the center checks on power supplies, light, heat, air circulation, water flow and reclamation, hydroponics tank status, spin, and so forth. These panels can be used to turn on or shut off such functions in any section of the station. Interior doors and exterior hatches can be remotely locked or unlocked, opened or closed as the need arises (but the locks to individual crew compartments cannot be overridden from here).

**E5. Electronics Monitor Center:** This section is devoted to tracking the station computer and sensor functions. As with other engineering sections, this one can be used to directly intervene in bridge control of operations on board.

**Hub Modules:** An OMS hub contains fourteen work areas arranged in a modular fashion. Two modules lie directly "above" each spoke, one over the other, to take up 20 of the 25 meters between the outer hull and the intake/accelerator system. These hub modules are not quite as similar to one another in layout and design as living or spoke modules are, but for purposes of the game the differences in content and exact positioning of interior features is negligible. The referee may feel free to add to the variety of the station by mapping out additional hub modules of his own, using the one provided in this booklet as a guide.

Aboard the *Andrew Carnegie* very few of the hub modules are actually used. Out of fourteen, only six are used with any frequency. However, important machinery and facilities in others make it necessary to keep all fourteen under power and with full life support in operation. Their functions can be monitored from the bridge and engineering decks.

Between the hub modules are large areas of space taken up by machinery, storage areas, or dead space and/or shielding. The *Andrew Carnegie* and other stations are all forced to devote a great deal of volume to the linear accelerator and the intake tube sections of the main spindle, and the area around these is much larger than is strictly necessary for the other functions of the facilities. Thus, there is quite a bit of unused space on board, particularly in the hub. Access to these unmapped spaces is not actually impossible, but almost all maintenance and repair in these areas is performed by robots. Crewmembers rarely have either the desire or the need to enter such sections of the station.

A typical hub module has been mapped out on page 50. Its contents are described below; use this as a general guide to what any module will hold.

As before, "E" and "V" denote elevators and ventilators respectively. The ventilation system is fed into the heart of these shafts in the dead space above the uppermost hub deck, where the elevators do not reach.

**1. Airlocks:** Airlock doors link the elevators with the Mag-Lev transit tubes. These locks are normally kept pressurized, and also serve as passages from one half of the module to the next.

**2. Transit Tubes:** Kept in vacuum constantly, these tubes are a sort of circular "elevator shaft" between various hub modules. Each tube contains one car, which operates on Mag-Lev principles between two specific modules. They allow for rapid transit between any two points on the station where people normally are found, because each tube terminates at another elevator shaft stretching up a different spoke.

**3. Mag-Lev Car:** Each car contains two bench seats running down either side. These may be folded down out of the way if

the car is being used to transport something bulky. Eight people can fit in a Mag-Lev car if they don't mind feeling cramped; six is better, especially if they are carrying any substantial amount of gear.

**4. Airlock Doors:** These are located at each end of the transit car, and are an added safety precaution backing up the airlocks described in 1.

**5. Work Areas:** These are large, open areas where crewmembers can move between the machinery areas.

**6. Heavy Machinery:** The exact nature of this machinery (as well as the exact appearance and space taken up) can vary radically from module to module. Some of the equipment found includes re-circulation plants, power converters, processing facilities, and exposed portions of the linear accelerator system. There are many other such pieces of heavy equipment in the hub modules.

**7. Processing Hoppers:** There are two basic types of hopper: tanks where melted ice can be collected, and crushers where chunks of rock are ground down to a manageable size before processing. Only the ice tanks are used aboard the *Andrew Carnegie*. These hoppers extend straight through two hub decks and connect with the intake tube; EVA teams on scooters guide chunks to be processed into the hopper entries. The lower deck hoppers are filled up before upper deck hoppers come into use. There are several heavy doors in the hopper system that can isolate them from one another and from the vacuum at the spindle core.

**8. Access Compartment:** These rooms contain storage for tools and the maintenance 'bots used to repair problems in the hopper and/or processing systems. There are also monitor screens and remote controls that allow an operator to handle a robot in the system when the problem is outside ordinary programming.

**9. Processing Tubes:** These tubes may contain pumps (for water from ice tanks) or conveyor belts (for solid materials), but in either case they connect to an elaborate system linking all of the hoppers to heavy-duty processing machinery and onboard storage systems elsewhere in the main spindle.

**10. Module Command Center:** This is actually a two-level structure. The lower level contains a small lounge for work breaks, and a bank of controls used to re-program robots employed in the work area and to control the actual operation of the machinery. The upper level is marked by a dotted line on the deck plans, and has master controls and an observation platform for observing and directing work on the floor below. It is sealed off by a clear plastic wall; communication is by a PA system and/or communicators.

**11. Stairs:** These lead up to the upper level of the Command Center.

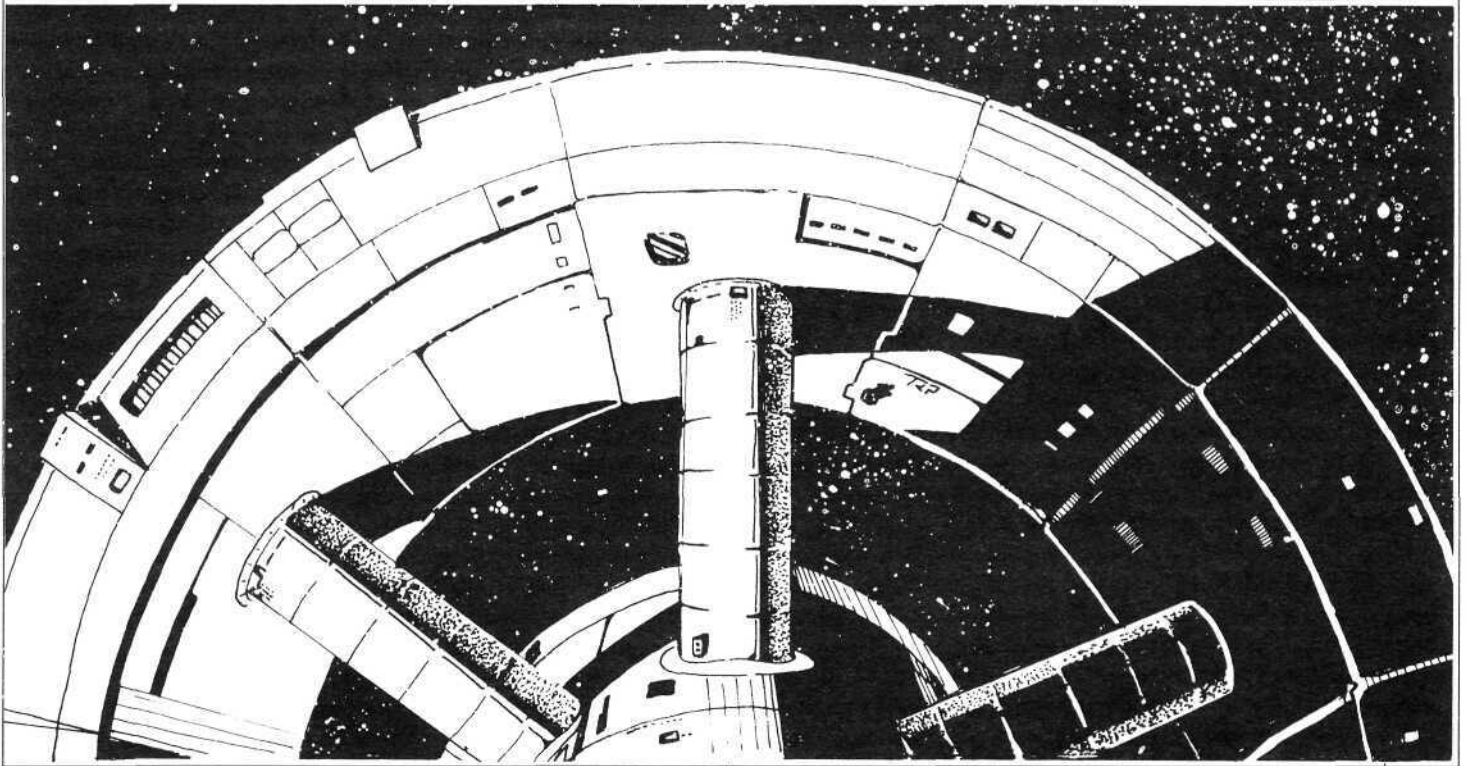
**12. Head:** A communal head, used by workers during shifts.

**13. Robot Bays:** These are storage areas where banks of maintenance 'bots are kept ready for action. They may respond automatically if activated by a programmed stimulus (such as a pressure drop or an electrical fault detected by the computer), or they may be activated, programmed, and deployed by crewmembers from the Command Center.

**14. Storerooms:** Spare parts and tools of all kinds are kept here, most of them relating directly to the functions of the nearest work area. These storerooms also contain service buggies (described in the Equipment section).

**15. Elevator-lock:** This elevator runs through both hub decks and then connects directly to the vacuum of the inner tube. Both people and scooters can enter or exit directly through here, rather than having to spend time flying out and redocking at one of the scooter bays.

**16. Robot Locks:** Robots deployed to repair or maintain the transit tubes enter through these airlock access hatches to avoid



accidental pressure drops in the rest of the module.

## OPERATIONAL PROCEDURES

*An ice sweep around Cocito may not be the most challenging kind of mining, and you'll never discover a vein of tantalum or a chunk of gold. But for sheer spectacular scenery, it can't be beat.*

*Imagine a ball 760 times the size of Luna as seen from the surface of the Earth, and you'll get an idea of how Cocito looks as the station drops towards its closest approach during an ice sweep. And though there is little light from distant Nyotekundu, Cocito glows with a faint light of its own. The swirling mass of multicolored clouds makes Jupiter pale by comparison. A man alone in a spacesuit with that looming globe watching his every move comes to believe in God in a hurry, let me tell you. Nothing humankind can do will ever match that awesome sight.*

*First-timers in the solar system are always disappointed to find out that they can't see the swarms of asteroids depicted in the old holoshows as they pass from Mars towards Jupiter. They should visit Cocito's rings. The ice may not come in dense swarms, but it's rare that you can't look around and see three or four chunks close enough to make out a shape. And the ice catches the light from Cocito as it spins by; passing through the rings, you can see the reflected light of a thousand pieces of crystal ice like a whole extra galaxy reserved for your own private enjoyment.*

*I may never get rich out here...but I wouldn't trade the things I've seen for all the diamonds and gold in known space!*

The *Andrew Carnegie* is deployed in orbit around the gas giant Cocito, sixth planet out from Nyotekundu. This eccentric orbit takes the station from a point far beyond the outer edge of the planet's ring system down to the innermost edge of those rings and back out again; the total orbital period lasts just over four hours. The station skims through the rings six times each standard day.

Because the demand for ice back on Inferno is far below the station's processing capacity, and there are no other mineral resources in the ring system worth exploiting, not every passage through the rings results in any sort of collection. Usually no more than one pass each day results in any active prospecting work.

This activity is known as an "ice sweep" and is the time for maximum mobilization of OMS personnel and resources.

An ice sweep begins as the station approaches the rings. Spin is taken off the station's hub and ring to permit scooters to launch and maneuver freely. An EVA team of six people—three two-man scooters—is deployed to conduct the sweep; there are two teams on board, and if necessary the second team can be sent out as backup. The scooters are small, open-frame sleds with reaction motors and very basic controls, intended to carry two people and a great deal of equipment on short hops through space. They lack sophisticated computers or sensor arrays, and during operations receive most of their control and guidance from the OMS bridge. The bridge crew locates likely looking chunks of ice, directs the scooters into position, and monitors the process in case of trouble or unexpected complications.

When an ice chunk is reached, the team carefully surveys it and plants a set of low thrust reaction motors in carefully selected locations on the chunk surface. Normally the chunk will be of considerable size—anything up to a kilometer in diameter—and placement will have to take careful account of centers of mass, current orbital path, and so on. These factors are computed aboard the station from information the EVA team supplies, then the final data is relayed back to the team for implementation. The reaction engines are designed to make use of the ice itself as a fuel source; they are embedded in the chunk using a combination of laser drilling and well placed explosive charges. Several ice chunks might be surveyed and fitted out in any given ice sweep, according to what the teams can reach and use and what the station's current quota requires.

When thrust is applied to the chunk, it is nudged into a new orbit around Cocito. This orbit will be projected to intersect some future location of the station at a vector which will make rendezvous fairly easy. Some of these orbits permit a pickup during the same ice sweep, while others may not bring station and chunk into contact for several orbits. In any case, the object is to bring the chunk to a point within 500 meters of the intake end of the OMS with a speed and orbital path that will not pose any significant obstacles to the problem of matching vectors and bringing

the chunk on board. Reaction engines to kill the original vector may be necessary to make this match up possible, depending on exact conditions.

Eventually, station and chunk rendezvous. Spin is again (or still) taken off the rotating portion of the OMS to make it easier to handle the docking procedure. EVA team members are sent out to supervise the operation directly. When the chunk is within 500 meters, the station's intake scoop comes into play. This projects powerful electromagnetic fields—operating on much the same principle as the linear accelerator—to seize the chunk and pull it into the aft end of the station. These Waverly-Damier projectors require massive amounts of power and some kind of metal to work on (the reaction engines installed in the ice, for instance), and are only effective at 500 meters or less, but they amount to a sort of "tractor beam" which can make intake of ice chunks much safer than any ordinary unpowered docking would be.

Once inside the intake portion of the hub, spin is slowly restored to the station. This brings the chunks under gentle gravity and causes them to fall outward to the inner hull of the hub. Here, after the spin has built up to full speed, gravity rises to about 1/3 G, enough to work with minimum disruption. The rocket motors are removed for recycling, while the chunk is cut by heavy lasers into manageable pieces and then brought into the hub modules for processing. It is melted into water and stored in tanks elsewhere aboard.

When the time comes to make a delivery, water is packaged inside metal canisters and placed back in the core of the main spindle below the spin decoupler. Here the linear accelerator catapult is brought into play. The catapult is fired during the station's furthest passage from Cocito, well clear of the rings. Computer projections determine the speed and precise release point needed to deliver the package to the immediate vicinity of Inferno. This trip will take months, even years for some packages to complete, but there is a full "pipeline" already in existence which insures a steady supply of water to the outposts there. Catapult launches are made on an average of twice a week, unless projected demand is particularly high. The Inferno outposts have major reserves of water to use when demand rises unexpectedly, and the shipments from the OMS are increased to replace such heavy use over the following months.

Packages from the catapult pass near enough to Inferno to be snagged by a spaceplane fitted out for retrieval work of this kind. They are brought down to the surface for storage immediately, since leaving them in orbit risks the possibility of a flare which could damage the canister. Not all of the water collected by the station is passed on to Inferno, of course; the OMS itself uses massive amounts of water to power the fusion reactors that operate the linear accelerator and other onboard systems, along with what water is used to support the crew.

## STATION LIFE

*Four walls may not a prison make, but a few weeks on board an OMS could make you want to try out prison life as a taste of freedom and a change of pace. A year in deep space with twenty people for company doesn't do much for a guy's sanity, and that bloody gas giant hanging outside was the closest we got to the "exploring exotic new worlds under distant suns" the company recruiting ads talked about. Distant suns was right—you could hardly tell that good, old Nyotekundu was anything more than another bright star in the sky!*

*They'd put a lot of effort into building a station where people could spread out and feel comfortable, but we were a handful of people in a place designed for nearly 200. With a full crew you*

*could have had variety and a chance to choose your friends. On the Andrew Carnegie all we had was the same old jokes, the same old battles, the same people day in, day out for months at a time.*

The OMS crew aboard the *Andrew Carnegie* is small, and, despite the periodic rotation of new trainees, these people do face the ongoing problems that come from placing a small group of people in relatively close quarters for long periods of time. Tempers on board are apt to flare, and everyone is well aware of the need to give people a lot of space when they need it. There is a high degree of sensitivity on board; crewmembers are quick to sense problems and tensions. Unfortunately, they can't always act on them.

**Spin Effects:** Probably the most interesting facet of getting used to life aboard an OMS is coping with the problems induced by the rapid spin of the inhabited portion of the station. The ring makes a complete turn every 20 seconds, which can play havoc with a lifetime of conditioned reflexes. New arrivals find that they have trouble walking because their eyes, inner ears, and legs are each reporting different things about the stability of the ground they are walking on. On top of that, the coriolis effect tends to complicate a lot of activities people on a planet surface would take for granted, including simple things like firing a gun or throwing. With practice, it is possible to learn how to compensate for the coriolis effect, but it may still interfere with some actions that may become necessary in **2300**.

Regardless of indicated skill levels, a character newly arrived on the station is treated as having a level-0 skill in Combat Rifleman, Sidearm, Heavy Weapons, and Thrown Weapons skills. It takes practice to recover the normal skill levels in these areas, practice which is accomplished through the use of tasks. Each time a character uses any one of these skills in the game, he may immediately attempt a task to increase his familiarity with the coriolis effect. If the task is successful, he receives one level of "skill" in Spin Operations; any failure up to a *minor mishap* causes no change in this "skill," while a *major* or *total mishap* causes it to *decline* by one instead. It can never fall below "0." The task of learning Spin Operations is given below.



To learn Spin Operations: Routine. Dexterity. Instant.

Spin Operations is not actually a skill in and of itself; rather it is a limiter on the effectiveness of the Combat Skills listed previously. No Combat Skill can be used at a level higher than the current level of Spin Operations, regardless of the actual skill level. Of course, a higher level of Spin Operations does nothing to improve a lower level of a Combat Skill. Once the Spin Operations level is higher than all Combat Skills held, no further increases are checked. Note that use of any Combat Skill effects the usefulness of *all* Combat Skills under spin, since the adaptation is largely a matter of instinct. Also, the attempt to increase Spin Operations is made whether the skill was used successfully or not. The referee may, if he so desires, allow *two* increase attempts in the wake of *successful* skill use, but this is strictly optional.

The character descriptions later in this booklet indicate the level of adaptation to spin achieved by the pregenerated NPCs aboard. Player characters being added to the ship's roster should roll 1D10 for the number of weeks they are on board, with anything less than five weeks being considered too recent to allow Spin Operations skill to be acquired. A character on board for five weeks or more may conduct a series of tasks representing practice in Spin Operations prior to the start of play. The first time a task fails, end all further attempts to increase the skill before the start of the adventure. There are no other consequences of failure.

To practice Spin Operations: Difficult. Determination. Instant.

The referee may decide whether or not to incorporate Spin Operations as a permanent skill in a character's repertoire. Most other space stations and L-5 colonies have spin gravity, but few are so pronounced in their effects as is an OMS.

When carrying out combat aboard an OMS, assume that any shot or throw which misses its target automatically deviates one square to starboard (counterclockwise) for every 10 meters of range to the target. This is in addition to all other deviation that may be applied to the attack. Referees interested in being totally accurate in their presentation of the phenomenon should probably not reduce the accuracy of weapons skills as applied to lasers, plasma guns, or sonic stunners, since these weapons hit target almost instantly over the short distances found on board the station. This is a complication the *referee* can use or ignore as he wishes. In any case, all benefits gained by laser designation of a target are eliminated when an attack is made by firearms, since lasers will not be affected by coriolis acceleration while projectiles will.

*The new chums always bore the brunt of the jokes. I doubt if there is an old hand on any station in AMEC's mining fleet who hasn't tried out a few clever stunts to keep the newbies confused. Lemieux, with his innocent face and his puppy dog eagerness, was a favorite target, and had half a dozen people doubled over laughing when he fell for O'Malley's call of "Hey, Lemieux, toss me that wrench." Naturally the throw went wild, curving off to starboard so that the wrench bounced right off the side of the hopper a meter away from O'Malley. For the rest of the tour Lemieux was tagged with the name "Lefty" in token of his fast-breaking curve ball. I thought it was funny, too...almost as funny as when an old-timer named Furneaux pulled the same stunt on me aboard the old Lee Iaccoca.*

**Gravity:** Spin gravity causes different levels of the station to experience different G-forces. This has a direct effect on the weight of people and objects at different points within the OMS.

When spin is off the station, all decks experience zero gravity. A special skill in zero-G is described elsewhere in this booklet; it can be very handy to use this skill to maintain control over movements and actions. Most mining station personnel (except recent arrivals) become proficient in Zero-G Operations quickly. Spin is taken off the ship during ice sweeps, and when a supply ship comes alongside to disembark new crewmembers or supplies.

Spin is kept on the rest of the time. The standard spin is just over 3 rpm, which gives a 1 -G gravity at the outer edge of the ring. Other decks have gravity as indicated in the listing which follows:

Inside Spindle: .32G

Inner Hub Modules: .51G

Outer Hub Modules: .63G

Engineering Deck (upper spoke Deck): .67G

Upper Cargo Deck: .71G

Second Cargo Deck: .74G

Scooter Bay Deck: .78G

Third Cargo Deck: .82G

Fourth Cargo Deck: .86G

Medical Deck: .90G

Bridge Deck: .94G

Living Modules (ring): LOG

Gravity directly changes the weight, but not the mass, of an object. Thus, a piece of equipment massing ten kilograms would weigh just over five kilograms on the outer hub deck, but inertia would still retain the properties of the basic mass. In game terms, this means that you can carry more, but moving or throwing an object is about the same as before. You can still throw a one kilogram *weight* no further than your basic throwing distance. To figure changing effects of gravity on different decks, you can either multiply the masses of different pieces of equipment by the current gravity level, or you can *divide* the character's Encumbrance stat by the same number. The latter approach is simpler to do, since only one calculation needs to be made at each new deck, but the other option conveys more of a sense of what is actually happening as gravity increases. The final effects, though, are the same in either case. No other stat changes with alterations in gravity.

In zero gravity, even simple things become hard. Any sort of activity involving movement, including both melee and projectile weapon combat, makes it likely that a character will lose control of himself. When moving or conducting combat (except with energy weapons like lasers or stunners), the *referee* should call for the resolution of a task to allow any character to conduct the action without losing control.

To maintain control in zero-G: Routine. Zero-G and Dexterity. Instant.

A character can complete one action before checking for loss of control. If control is lost by the character, the character can do nothing else until he regains control of himself. He moves in a random direction as he drifts helplessly, changing direction each time he comes into contact with an obstacle or person. At the end of each combat turn, the character may conduct a task to regain control.

To regain control in zero-G: Difficult. Zero-G and Dexterity. Instant.

Until control is regained, the character is effectively out of action, unable to function.

## EQUIPMENT

Certain equipment aboard the station and at the outposts on Inferno, specifically designed for use in asteroid and ring mining, could become useful in the adventure.

**Leyland-Armstrong Mk. A7C EV Scooter:** Typical of simple, rugged EVA vehicles for deep-space operations, the A7C Scooter is a two-man "space sled" used for mining operations aboard the *Andrew Carnegie*. Scooters are little more than open frames supporting a rocket motor, fuel tanks, a small cargo rack, and a set of very basic controls. Exact designs vary, but the Leyland-Armstrong design places the two passengers side by side in a prone position, held to the frame by quick-release snaps on their vacc suits. Either person can operate the controls (which vary the angle and force of rocket thrust, track fuel levels, and do little else); the other passenger can observe or undertake other activities as needed. Scooters have no real onboard systems of any kind, but antenna connections can boost suit radio ranges by a factor of 10.

*Type:* Deep Space Short-Range Transport Scooter *Crew:* Pilot *Weight:* 300 kg *Armor:* All *Faces:* None *Evasion:* 1 *Signature:* +3 *Cargo:* 1 passenger and 250 kg *Endurance:* 24 hours *Price:* Lv600,000

**EVA Work Suit:** A heavy-duty version of the vacc suit designed for the rugged conditions of deep-space mining. The suit is less flexible than the standard vacc suit, but less likely to suffer damage. The rigid helmet contains a radio equivalent to a backpack communicator in range and power. It also contains a flip-up image intensifier operated by a chin switch, giving the equivalent of binoculars on command. Life support is 10 hours, with bottled oxygen extending the duration to 20 hours. An EVA thruster backpack provides limited maneuverability in 0-G conditions. *Weight:* 25 kg *Armor:* All *Faces:* 0.5 *Initiative:* -2 *Price:* Lv3000

**Mining Laser:** Lasers used for mining operations are large, unwieldy, but very powerful. Unlike laser weapons, they use massive charges of energy drawn from larger LMS power cells. The whole unit is semiportable at best, but under mining conditions it is easy enough to set the laser up and break it down again after use with few difficulties. Power packs can be recharged directly from the fuel cell aboard a scooter, or from station power sources. A typical power recharge from a scooter is the equivalent of ten minute's scooter operation.

*Type:* 240-01 Mining Laser *Country:* Various *Weight:* 12 kg *Length:* 85 cm (Bulk = 4) *Action:* Single shot *Pulse Energy:* 2.4 mj *Muzzle Velocity:* c *Ammunition:* 120 mj FDLMS cell magazine (50 pulses) *Ammunition Weight:* 50 kg *ROF:* 5 *Aimed Fire Range:* 500 m *DP Value:* 6 *Price:* Lv3850

**Beacon:** Beacons are planted during sweeps to establish the location of a given asteroid or ice chunk for later recovery. In OMS operations, the beacon is used to track the target chunk and verify the time and place of rendezvous. The characteristics of the beacon are very similar to those of the Tight-Beam Dp-Link Communicator, with most of the same limitations. *Weight:* 20 kg *Range:* 5000 km *Signature:* 0 *Price:* Lv625

**Thruster Module:** Belt mining requires the alteration of a chunk's course so that it can be snagged and processed. The thruster module is a self-contained, one-shot rocket engine used for this purpose. It is dug into a precalculated position in the chunk (using mining lasers); then it can be fired to nudge the chunk into a new orbit at a very low change in Delta Vee. Modules contain a small fuel cell, rocket thrusters, and simple controls that allow for either timed or remote triggering of the unit. Those used on ice chunks have no need of extra sources of fuel; they can be rigged to use the ice itself as reaction mass. Rock mining requires



the addition of a liquid fuel tank to use in place of ice. *Weight:* 75 kg *Signature:* +1 *Endurance:* 1 hour *Performance:* Varies with mass of chunk and desired orbital change *Price:* Lv2500

**Service Buggy:** A small, two-man transport vehicle used to move about in the larger areas of the OMS. Service buggies are very much like 20th century golf carts in design and appearance. One driver operates the controls; a passenger sits beside him. A cargo area in back can hold fairly large amounts of cargo or even a third person (albeit uncomfortably).

*Type:* Wheeled Cart *Crew:* Driver *Weight:* 200 kg *Armor:* Suspension: 0.1 *All Other Faces:* 0.2 *Signature:* 1 *Evasion:* 1 *Cargo:* 1 passenger and either a third passenger or 200 kg *Endurance:* 4 hours *Price:* Lv40,000

**Foil:** The OMS gym stores include a set of six matched fencing foils often used for workouts on board. These foils are blunt-tipped practice foils linked to a small battery pack by means of a wire running down the fencer's sleeve. When fencing, a hit in a legitimate target area of the opponent's jacket causes a *buzzer* to sound and signal a scored point. Presumably someone with Electronics skill could modify the weapon to deliver a lethal jolt of electricity instead (see Onboard Systems for the tasks involved). Unmodified, practice foils do no real damage; data below is included for a modified practice weapon and for a genuine (long obsolete) fighting foil.

*Type:* Standard Foil *Length:* 80 cm (Bulk = 1) *Weight:* 0.5 kg *Melee Range:* Long *Melee Skill Modifier:* +1 *DP:* 0.2 *Price:* Lv3

*Type:* Practice Foil, Modified *Length:* 80 cm (Bulk = 1) *Weight:* 0.5 kg *Power Pack:* 5 mj LMS cell (25 discharges) *Power Pack Weight:* 1 kg *Melee Range:* Long *Melee Skill Modifier:* +2 *DP:* 2 *Price:* Lv5 (unmodified version)

**Practice Lasers:** Three laser weapons are also among the gym stores of the *Andrew Carnegie*. One Mueller-Rivera P-3 pistol and two Gonzalves-Brazilia "Luce-3" laser rifles are used for marksmanship practice on board by those persons with an interest in shooting. Practice lasers, however, are not combat-ready. They have been heavily modified to make them no more harmful than a particularly bright flashlight, since having live laser weapons on

board could be very hazardous to everyone. It would be possible, however, to reconvert these weapons to combat use (as described in Onboard Systems). Until these conversions are made, the weapons are useless; once converted, their stats are as given in the *Player's Manual*.

## ROBOTS

A wide variety of robots are used on the OMS *Andrew Carnegie* for almost every conceivable form of maintenance and housekeeping function. The robots used on the station are a far cry from the anthropomorphic machines envisioned by early science fiction; these are highly specialized machines which suit form to function and limit operations to a comparatively narrow sphere of responsibilities.

**Repair 'Bot:** The standard type of maintenance robot aboard the station actually comes in a bewildering variety of specific models. Maintenance 'bots are designed to repair only one type of station system or subsystem; different models handle different functions. Size varies from one to two feet in length. Most of these 'bots are wheeled, although some are designed to operate from overhead tracks that allow access to machinery at higher levels. An assortment of extensor arms tipped with tools and sensors gives these 'bots a vaguely insectoid look.

Each repair 'bot mounts tools that make it equivalent to a specific type of tool kit (either Basic, Electronic, or Vehicle Maintenance). Under computer control (the normal mode of operation) a 'bot will have an Electronic or Mechanical skill level (not both) of 5. A 'bot can also be handled as a remote drone by a human operator at a skill level one less than the operator's normal skill in that area.

*Type:* Repair Robot *Weight:* 20 kg *Signature:* 1 *Armament:* None *Armor Value:* 0.3 *Sensor Range:* 10 m *Maximum Speed:* 10 kph *Cruising Speed:* 5 kph *Combat Movement:* 83 m *Endurance:* 2 hours *Price:* Lv750

**Diagnostic 'Bot:** Diagnostic robots are designed to interface with electronics to troubleshoot problems ordinary 'bots cannot repair. They are sent out by the computer any time an electronics system does not respond to repair, or at the command of a human operator. A diagnostic 'bot links up to the system to be examined and can then perform a wide battery of tests that define the exact nature of a problem. Each diagnostic 'bot has the equivalent of Computer or Robotics (not both) skill at level 5, or it can be handled remotely by a human operator at a skill level one less than the operator's normal skill in that area. The diagnostic 'bot, which looks vaguely like a football on tracks with multiple extensors on one end, does not make repairs itself; it communicates its findings to the station computer and waits for a suitable repair 'bot to be dispatched.

*Type:* Supervisory Robot *Weight:* 30 kg *Signature:* 1 *Armament:* None *Armor Value:* .2 *Sensor Range:* 15 m *Maximum Speed:* 10 kph *Cruising Speed:* 5 kph *Combat Movement:* 83 m *Endurance:* 2 hours *Price:* Lv900

**Survey 'Bot:** A survey 'bot is a large, spherical machine mounted on tracks, with a large number of extendable arms mounting various sensors and lenses. It is used to gather information on large work projects too complex to monitor by ordinary input from other 'bots. The sensors in its body include radiation detectors, cameras operating in UV, IR, and normal vision ranges, microphones, and magnifiers on the ends of extensors to permit detailed observation of hard-to-see places. Sensor 'bots are most frequently used by human operators directing a repair project, but the master computer also makes use of them when the need arises.

*Type:* Supervisory Robot *Weight:* 50 kg *Signature:* 2 *Armament:* None *Armor Value:* .2 *Sensor Range:* 50 m *Maximum*

*Speed:* 5 kph *Cruising Speed:* 3 kph *Combat Movement:* 42 m *Endurance:* 3 hours *Price:* Lv1150

**Armored Repair 'Bot:** Squat, crab-shaped, and heavily protected, the armored repair 'bot is designed to make repairs to power plants, drive systems, and other areas of intense radiation. Armor is installed as a protection against the effects of X-rays and gamma rays on electronic circuitry. This 'bot has a computer-directed skill in Ship Drive Engineering of 5, or allows a human operator to use the skill at one less than normal.

*Type:* Repair Robot *Weight:* 25 kg *Signature:* 0 *Armament:* None *Armor Value:* 1 *Sensor Range:* 10 m *Maximum Speed:* 5 kph *Cruising Speed:* 2 kph *Combat Movement:* 42 m *Endurance:* 1 hour *Price:* Lv950

**Welder 'Bot:** This squat, cylindrical robot mounts a laser used as a cutting torch and patch-welder. The laser is equivalent in output and performance to the LK-1 combat laser. The 'bot laser system is installed in an extensor arm that can be moved to a variety of angles and positions. The primary purpose of the unit is to cut or join metal (for hull repairs, etc.). It could theoretically be used as a clumsy remote-controlled laser at a skill level of 2 (regardless of the controller's skill level). The computer could be programmed to handle the 'bot in this fashion as well.

*Type:* Repair Robot *Weight:* 30 kg *Signature:* 2 *Armament:* One 35-01 laser *Armor Value:* .3 *Sensor Range:* 10 m *Maximum Speed:* 10 kph *Cruise Speed:* 5 kph *Combat Movement:* 83 m *Endurance:* 2 hrs *Price:* Lv1750

**Transport 'Bot:** The largest class of robots used aboard the OMS, the transport 'bot resembles a forklift in size and overall appearance. These large 'bots are used for moving large items from place to place, and for lifting or shifting heavy equipment during repair operations. They mount multiple arms and a small hoist, and the lift on the front can tilt forward and down to serve as a flatbed for hauling. Transport 'bots can be operated either remotely, by computer, or by a human operator actually sitting at the onboard control console.

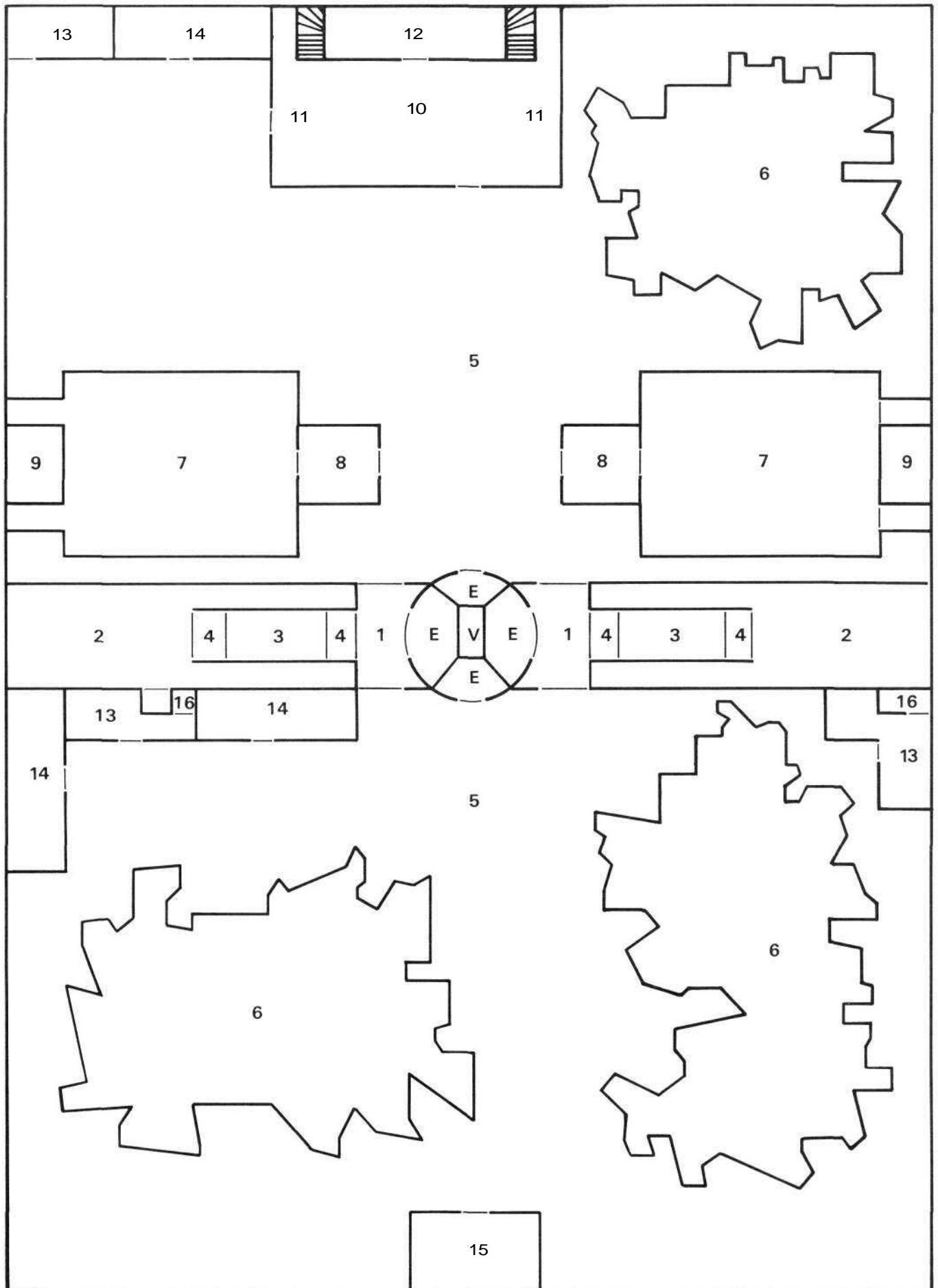
*Type:* Transport Robot/Vehicle *Weight:* 250 kg *Signature:* 3 *Armament:* None *Armor Value:* .5 *Sensor Range:* 25 m *Maximum Speed:* 15 kph *Cruising Speed:* 10 kph *Combat Movement:* 125 m *Endurance:* 5 hours *Price:* Lv1575

## ONBOARD SYSTEMS

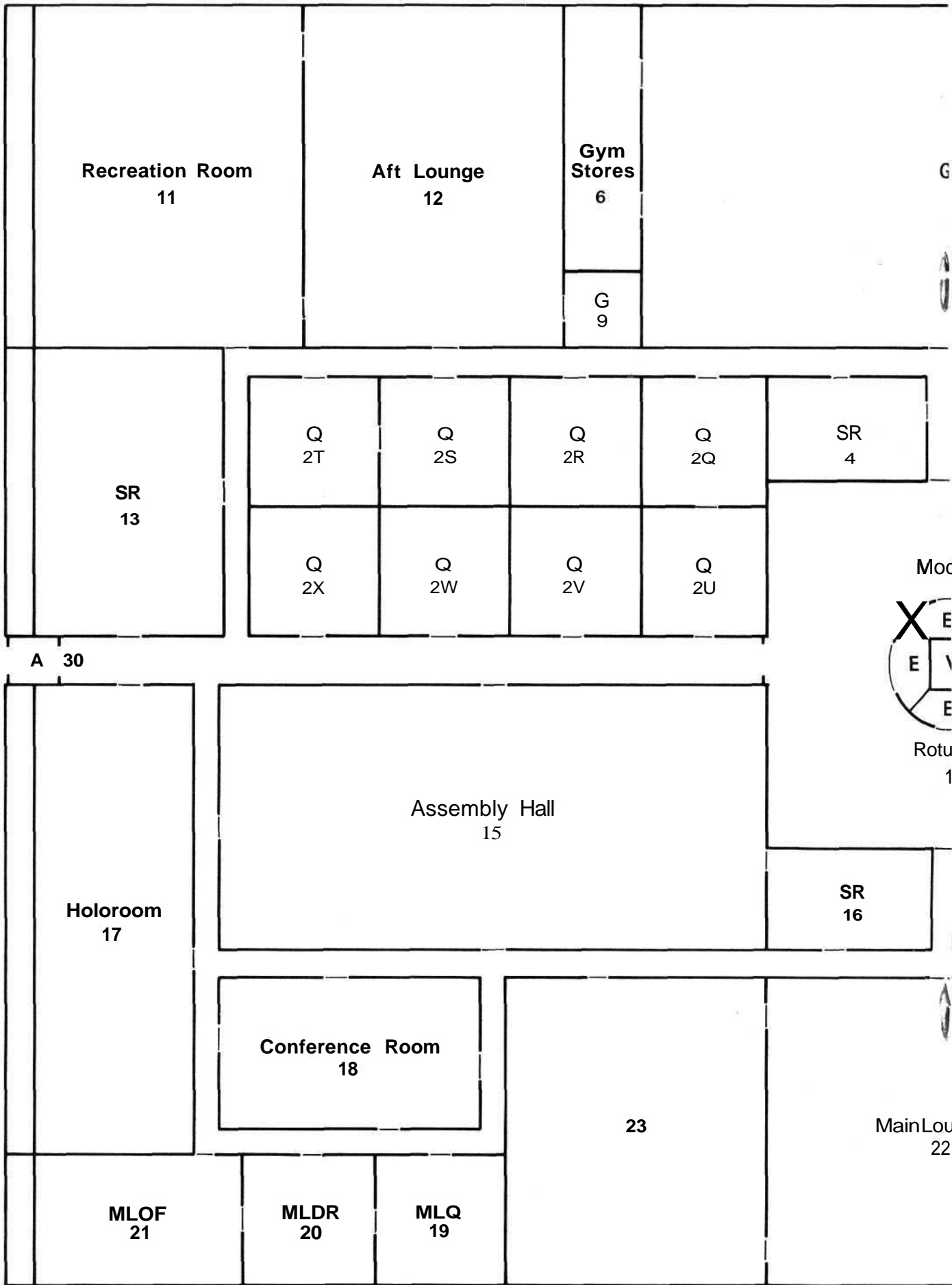
*He looked up, scowling, from the console. "It's no good. The computer's been overridden from engineering. We can't take back control from here." No one answered; those three sentences had left us all too numb to respond. With the computer out of reach and Berghoffer in control of the station, we all knew that we were fast running out of options....*

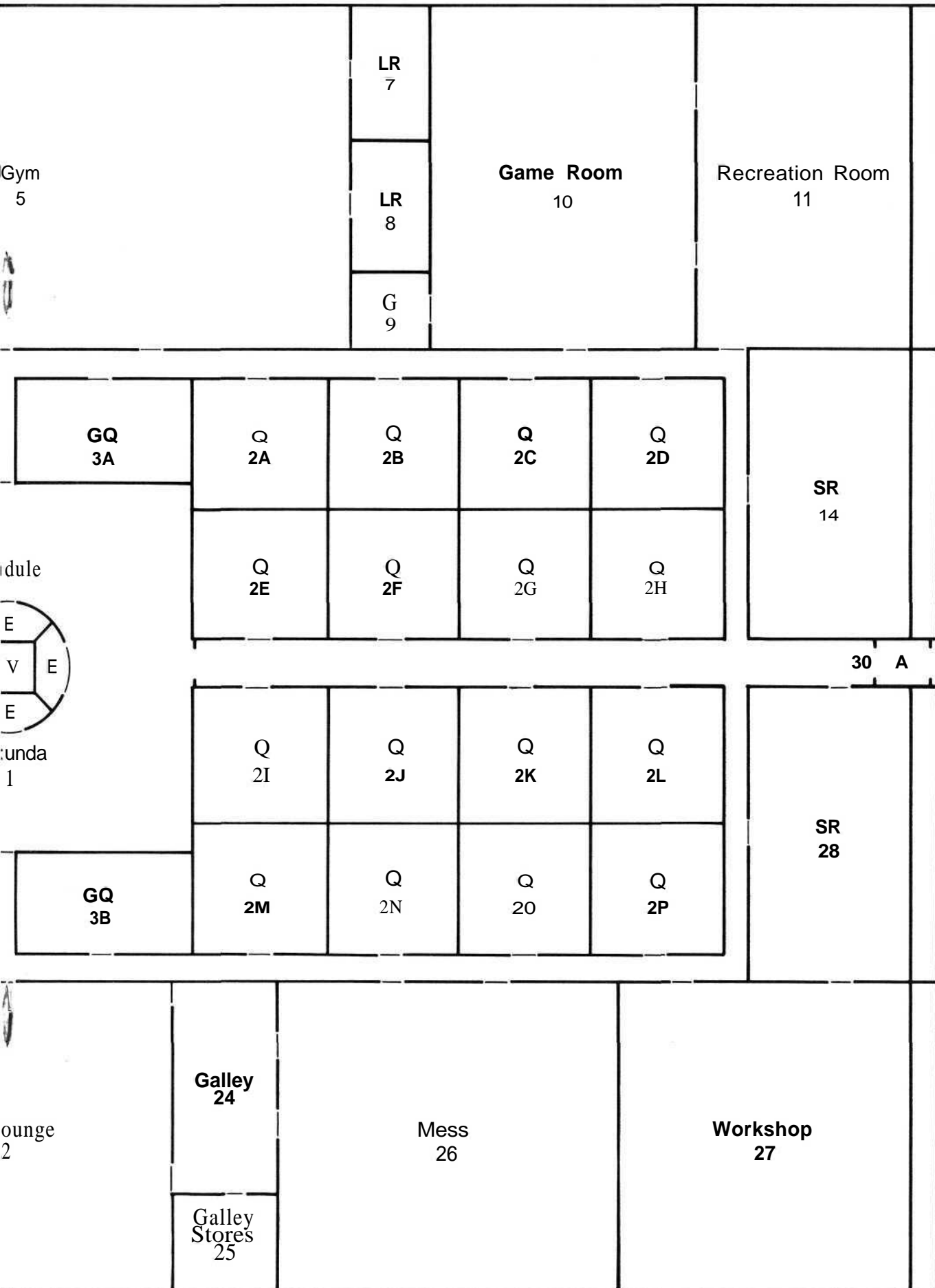
A large portion of *Echoes of the Past*, the adventure at the end of this Sourcebook, centers around the struggle to retain control of the *Andrew Carnegie*. Tasks undertaken to alter or repair station systems will form an important part of the group's efforts. The wise referee will avoid making task resolution the only element of the scenario, but it should be a necessary adjunct to the more exciting combat situations that will arise during play. In many cases players will need to fight on one front while others are using tasks to restore some essential station function cut off by Berghoffer, while, in other instances, the resolution of a task may be an essential first step to launching an attack that will reclaim the station.

The sections that follow break down the major station systems that may be important to the adventure, describing some of the tasks that might be undertaken at various points during the game. The referee should feel free to add other tasks as needed, using



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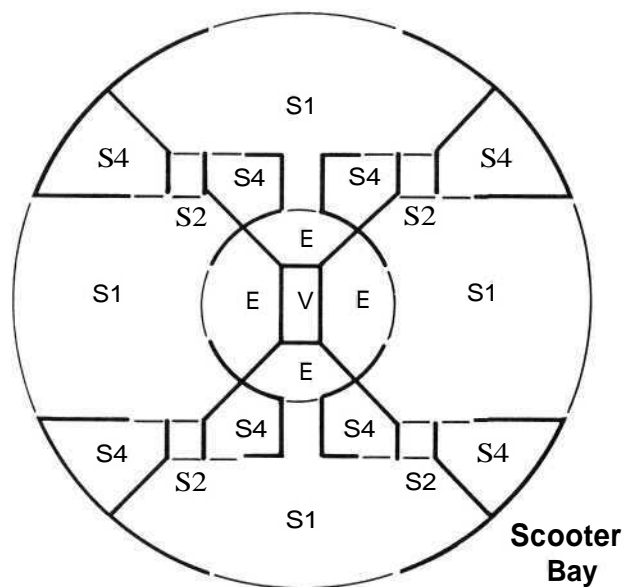
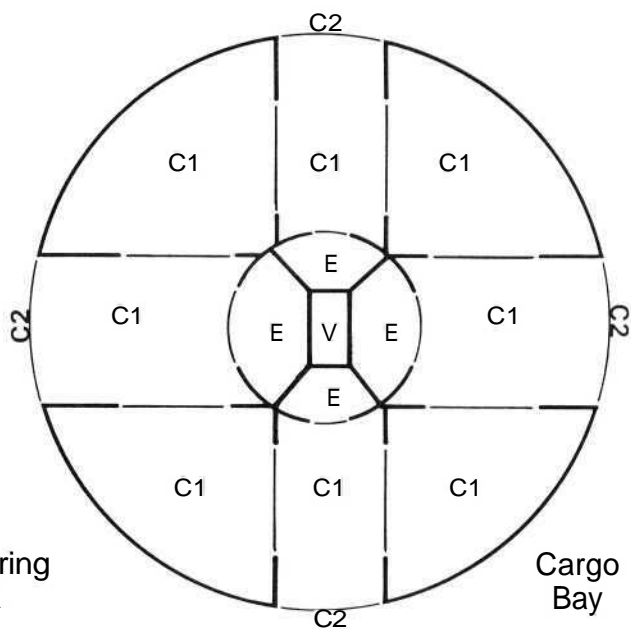
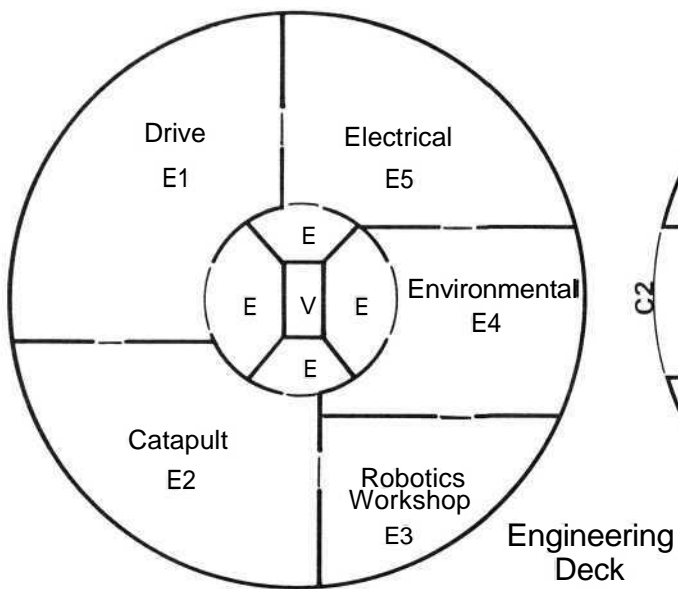
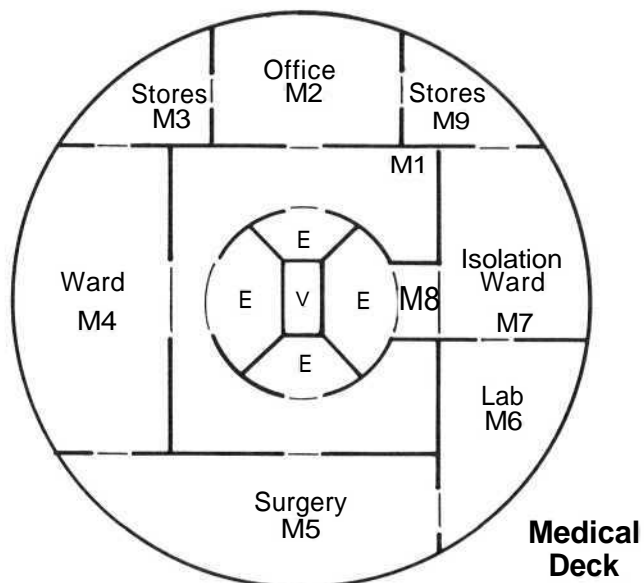
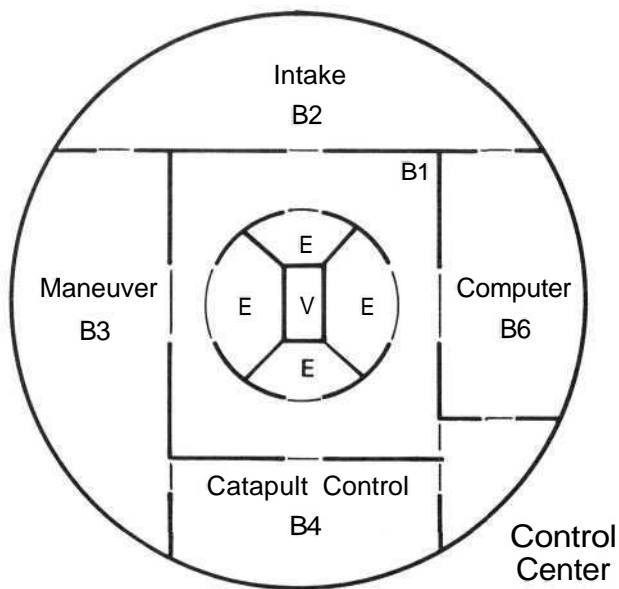




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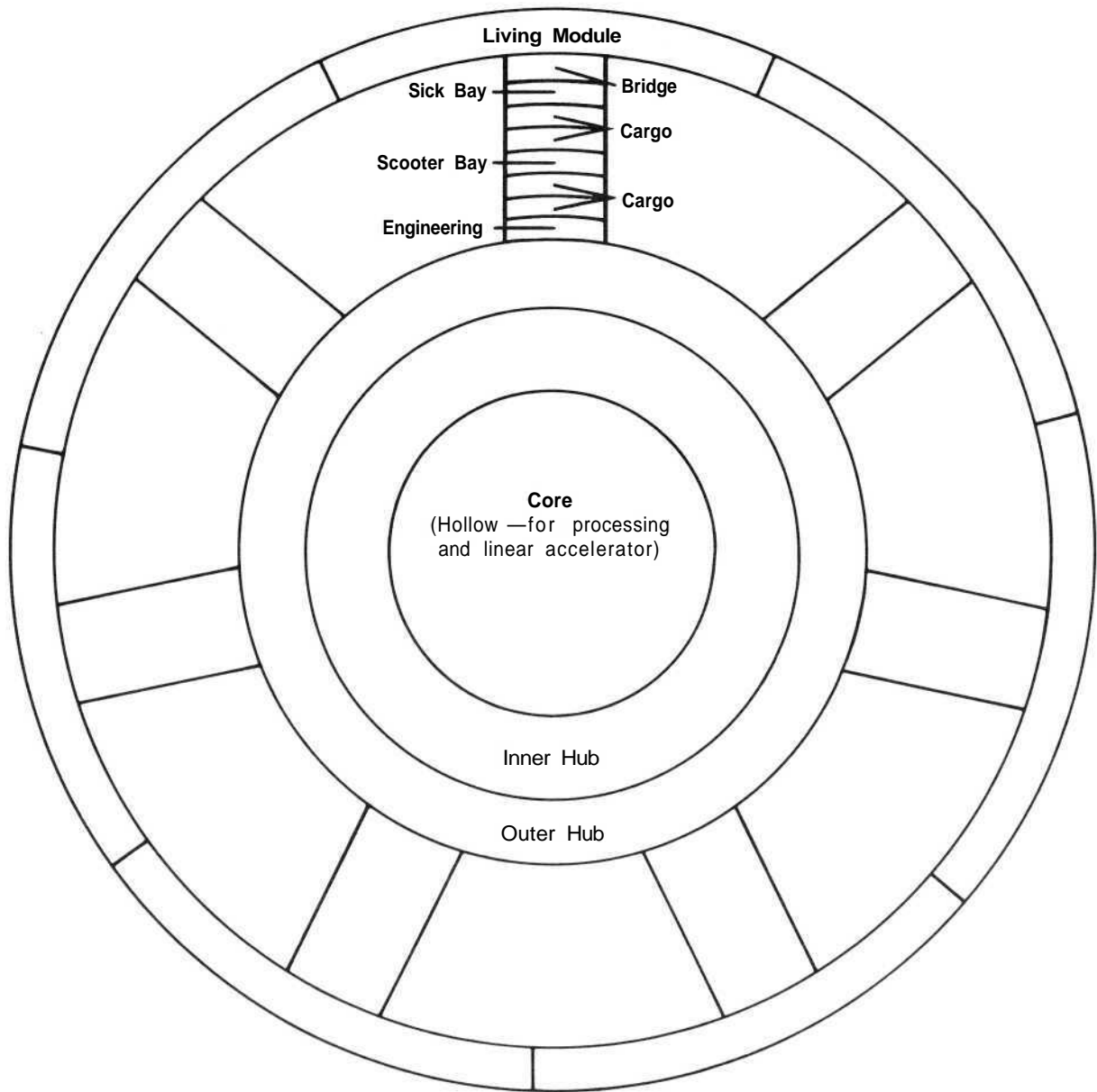
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**CROSS SECTION OF OMS**

these as models, to reflect other possibilities that could arise.

**Environmental Systems:** Five major subsystems are involved in keeping the personnel aboard the OMS alive. These are the systems that control light, heat, air, access, and food. In some cases loss of a system can be fatal, while in others it is only inconvenient. Berghoffer's greatest weapon against the rest of the crew is his ability to alter the environment.

For the most part, the player characters will be primarily concerned with restoring systems after they have been cut off. Now and then, however, it may be necessary to sabotage environmental systems to slow down Berghoffer. Tasks governing both possibilities are outlined here.

**Light:** Lights for the various interior modules of the station are powered from the main generators deep in the bowels of the hub. Power supplies are distributed through the datastrip network extending throughout the station and cannot be easily halted through manual sabotage: the power grid contains its own internal switching controls that shunt power supplies through alternate routes when a break in any line is noted. Short of major structural damage, there is no way to "cut the wires" and isolate part of the station from the power supply.

However, power flow can be denied to specific parts of the station through computer cutoffs located on the bridge and in the engineering section. These cutoffs are modular; one switch will deny power to an entire ring, spoke, or hub module. Finer tuning is not possible. This means that Berghoffer can shut down all power in the inhabited ring module—including all lights, recirculation machinery, computer terminals, electric doors, and so on—with one act, but he cannot discriminate further. And, in order to function effectively, he must keep on the power in the spoke module where engineering (and the bridge) is located. This means that the characters should be able to keep a safe haven if they can retain control of part of the main spoke.

With the power supply controlled from both the bridge and the engineering facilities, it is possible that there will be an ongoing competition for control of the power grid. However, either side may attempt to block out the other one from the competition through control of computer systems (see below). Once the computer terminals in a given area have been locked out of the system, control will rest firmly in the hands of the side which retains the computer.

The other major option open to players (Berghoffer wouldn't consider it) would be sabotage of the main power generators. These are in an unmapped section of the station forward of the spin decoupler. If the characters do decide to take this drastic course of action and succeed in shutting down the generators, all power to all parts of the ship will be cut off. Robots cease taking directions from the central computer, air stops recycling, lights are out, hatches won't open unless manually operated, and all other systems are totally dead. This isn't exactly a rousing victory, since it will only be a matter of hours before the station and all aboard her are dead. Without the electromagnetic radiation screens, Cocito's massive radiation output will have the same effect as a series of multiple neutron bomb hits in a very short time.

To deny power to a given module: Simple. Computer. 2 minutes.

To restore power to a given module: Simple. Computer. 2 minutes.

To shut down the main power generators: Formidable. Ship Drive Engineering. 1 hour.

**Heat:** Contrary to popular belief (fostered by decades of trite science fiction passages about "the icy cold of outer space") space is not cold. It is a vacuum, and hence a perfect insulator. The effects of deep space surrounding a ship or a person in a vacc suit follow the same principles as a drink in a thermos jug: hot items tend to stay hot, and cold items cold. Simply shutting off the space heaters on board the station will not result in a deep freeze.

Still, manipulation of heating and cooling systems can be a useful weapon. Heat is a far more flexible tool than air conditioning, since the insulation provided by the vacuum outside will tend to magnify the effects of overheating; remember that machinery, bodies, and the air itself, are already contributing lots of heat to the station environment. Indeed, most of the station environmental controls are devoted to cooling the inside heat buildup rather than adding more heat to the system. As a result, manipulation of the heating/cooling controls can build up unbearable levels of heat in fairly short order.

Internal heat is regulated by the air recirculation system. Each air vent in the station (there is one in each compartment, and overlooking most passageways as well) contains a small heating/air conditioning unit controlled by a cabin thermostat. Individual rooms can be set for individual levels of comfort. However, these units are also tied into the computer/power grid network via datastrip, which means that a sufficiently clever computer programmer could override thermostat commands and control these units for himself. Creating an initial program to do this is a long and tedious task. Once it is available, though, it is easy to take control of any individual compartment heating system and raise the temperature inside. Heat buildup will occur at a level of one centigrade degree per minute, starting at an average cabin temperature of 18° C. At 30° C temperatures are high enough to cause discomfort; at 50° heat stroke and death are almost certain. During each combat round, divide the current temperature by 30 (round fractions down), and reduce Endurance by the result. When Endurance reaches zero, the character is unconscious. Further reductions are applied against the Life Level; when it reaches zero, the character is dead.

Specific conditioning unit takeovers cannot be quickly countered unless characters have prepared a computer program to do the same thing. As with lights, the heating systems can only be controlled from bridge and engineering computer terminals, so characters who can use one of those terminals would be able to counter such a move—once they have the program worked out. Again, if a computer terminal has been locked out of the network, this approach won't work. The alternative is to manually disconnect the conditioning unit from the datastrip (which causes temperatures in the affected compartment to level off), and then make jury-rigged repairs which connect power leads, but not computer input, to the datastrip grid. This is a very time consuming task, but once it has been done there is no further need to worry about the conditioning unit in a given compartment.

To write a program to control conditioning units: Difficult. Computer. 5 hours.

To run a program to control a conditioning unit: Simple. Environmental Engineering or Computer. 2 minutes.

To disconnect a conditioning unit from datastrip: Routine. Mechanical. 2 minutes.

To connect a conditioning unit to datastrip (makeshift): Routine. Environmental Engineering or Electronic. 15 Minutes.

*Referee's Note:* Requires Electronic Tool Kit.

*Air:* Another common misconception fostered by bad science fiction over the past several years is that cutting off air circulation leads to quick death. This, of course, is patently absurd; a structure as big as an OMS holds a lot of air, and it will take a great deal of time to exhaust available oxygen under normal circumstances.

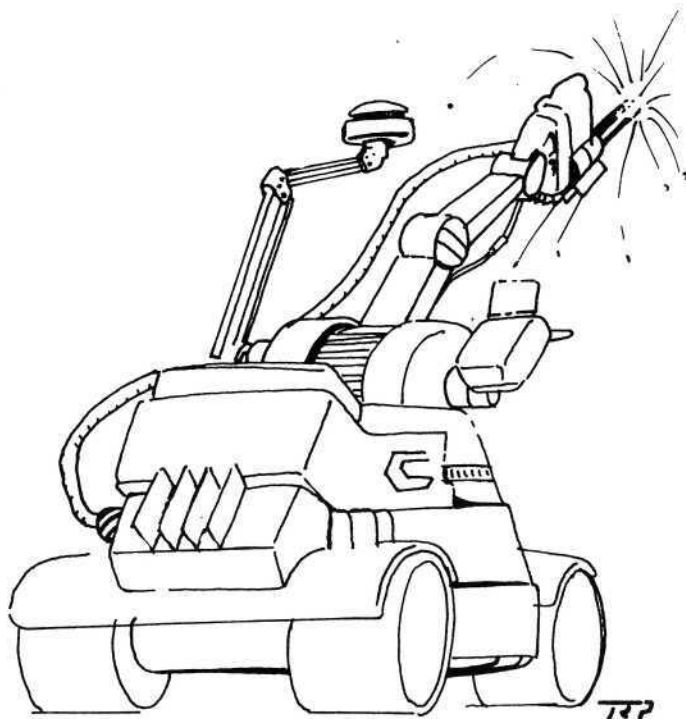
However, there are many ways that air recirculation machinery can be used as an effective weapon. An imbalance of oxygen, nitrogen, or carbon dioxide can have dangerous effects given sufficient time to build up in a given part of the station. Harmful gases can be released into the station air supply and circulated throughout the OMS, though under most circumstances the supplies necessary to reach all spaces on board in quantity would be prohibitive—keep in mind the dimensions of the structure. Finally, breaches in the hull or open exterior hatches can place portions of the station in vacuum, sometimes quickly enough to kill people inside through explosive decompression. All these options are available to Berghoffer, as well as to his opponents.

The main air recycling systems are located in Hub Module 3; heavy equipment in that module represents the atmospheric plant itself, while the storage tanks around it are used to keep oxygen, nitrogen, carbon dioxide, and other atmospheric constituents under pressure. Air is recycled and reprocessed constantly, with replacement oxygen being furnished as a by-product of the ice mining operations on board (separation of hydrogen and oxygen from processed ice chunks is standard practice, with the oxygen going to the air supply and the hydrogen becoming fuel for the fusion plant). The station computer keeps the mix in balance. From the atmospheric plant, the air is fed to all the inhabited parts of the station through a network of ventilation ducts. Fans are placed at strategic points throughout the ducts to stimulate the flow of air; the individual compartment vents include conditioning units (as described previously) with additional blowers. Because the ventilation shafts are also used for maintenance purposes (usually by small robots), it is possible to move through them. Fans can be swung out of the way to permit access. Airtight shutters can also be dropped into place, either manually or automatically, to seal off areas that are to be depressurized.

When altering the balance of gases in a given area, figure that each square on the map takes ten minutes to use up (per person) or to replace. Thus even a small compartment won't be significantly affected for an hour or more under most conditions. Each living module makes up one self-contained area, as does each spoke deck and each half of a hub module. That means that disruptions to any segment's air supply are extremely slow to take effect. However, if the engineering deck was shut off from the rest of the station and harmful gases introduced there, people on that deck would be overcome much more quickly by the gas than people on the other decks would succumb to fouled air, because they are in a smaller enclosed area.

Various gases have various effects on victims. If oxygen is cut off or drastically reduced, characters will suffer a loss of one point of Endurance per combat round. When Endurance reaches 0, begin reducing Life Level. Once Endurance has reached zero there is a strong possibility of irreversible brain damage; when Life Level reaches zero the character dies.

Too much oxygen can also be dangerous, but in a different way. If the concentration of oxygen in a given area is above normal, characters inside begin to display all the symptoms of intoxication. They lose coordination and judgment and become giddy. Reduce Intelligence by one each round, and require saving throws or tasks using intelligence as a modifier for even the simplest routines. Once intelligence reaches zero, the character passes out.



The intelligence loss is purely temporary.

Introduction of significant quantities of hydrogen into spaces already containing oxygen can have rather spectacular (and nasty) results. Any spark, including normal electrical activity, can cause a massive explosion in the compartment as the two elements combine (precipitating water in the process). Sparks will be generated by the use of any firearm or laser weapon; there is also one chance in ten (1 on 1d10) per round that ordinary electrical activity in the cabin will set off the explosion. The referee can adjudicate other situations which could cause sparks and set off this gaseous time bomb.

Characters with skill in Chemistry can produce improvised chemical weapons with access to the sick bay lab facilities. Tranquilizing gas or a crude form of tear gas are both possibilities. In either case it will take about one liter of gas to affect one square on the mapsheets, so gas production will tend to be slow.

External hatches on the station are designed on an airlock principle with fail-safe systems to keep both airtight doors from being opened at once. This design can be overridden by computer control in much the same way as light and heat controls can be overridden. Countering programs can restore normal function, but, as in previous cases, only the bridge and engineering terminals can be used for this work. The station's hull is 10-centimeter-thick construction composites; this gives it an Armor Value of 2.0 against weapons, and causes explosives to do damage at  $DP = EP/2$ ; the size of a breach caused by explosives will be  $DP - 10$  centimeters across. Small breaches (those caused by beam or projectile hits) cause slow leaks that will depressurize a compartment or area at a rate of 10 minutes per map square in the area in question. A hole 10 centimeters across causes depressurization at one minute per map square, with larger holes causing proportionately faster leakage. A hole a meter across would cause a compartment to lose 10 squares worth of atmosphere each minute. Of course, the actual effect is a gradual drop in pressure across the entire area being effected by the leak; these calculations are used simply as a measure of how long depressurization of a large area will actually take. Automatic sensors in the station hull can detect pressure drops and automatically close all airtight barriers, sealing off the

endangered module until repairs can be made. Repairs require patching and remote-controlled or manual repressurization. Characters exposed to a vacuum can survive by holding their breath for about a minute, but decompression will certainly cause bleeding around the eyes, nose, and mouth and produce bruising through bursting capillaries just under the skin. Sudden exposure to hard vacuum (as opposed to gradual decompression) is fatal within one combat round.

To alter the balance of atmospheric gases: Difficult. Environmental Engineering. 5 minutes.

To introduce hydrogen into the gas mix: Formidable. Mechanical. 30 minutes.

To remotely shut down recirculation to a given deck or module: Routine. Computer. 2 minutes.

To remotely restore recirculation to a given deck or module: Routine. Computer. 2 minutes.

To manually restore recirculation to a given deck or module: Difficult. Electronics or Mechanical. 10 minutes.

To manufacture 1 liter of tranq or irritant gas: Difficult. Chemistry. 1 hour.

To override airlock fail-safe controls remotely: Routine. Computer. 2 minutes.

To manually close an open airlock door: Routine. Electronics or Mechanical. 2 minutes.

To patch a hull breach: Routine. Mechanical. 1 minute per 10 centimeter width of breach.

**Access:** Movement through the station is accomplished by several methods. Most internal doorways are closed by simple door panels, which are nonairtight and operated by a simple stud control. Doors to private cabins can be locked from the inside, while any door in the station can be locked by a computer command. Locks can also be overridden by computer commands from the bridge and/or engineering terminals.

Elevators connect the hub and ring modules through each of the spokes. Onboard controls guide the elevator between decks, but remote computer commands can lock the doors at any level. Elevators are not directly controlled by the central computer, but elevator movement might be totally shut down or completely controlled from a remote location by implementation of a computer program designed especially for the task.

Backing up the elevators and passageways in the station is the network of air vent/maintenance shafts which connect every portion of the station. These shafts were designed to carry not only air but also datastrip power and computer connections, water, coolant, and other essentials, and to allow robots and occasional human workers access as well. They are passable, but people will find them cramped. Persons of Size 10-15 move only with great difficulty (halve Speed and Encumbrance); persons of Size 16+ cannot move through these shafts at all. The tunnels are frequently blocked by fans, which must be turned off and moved aside before progress can continue. It is also possible for persons in the bridge or engineering to seal off a shaft with 10-centimeter airtight shutters, which pose a significant obstacle to movement. Final-

ly, the shafts are easily defended by people, robots, or automatic defensive measures constructed specifically for the job.

Hub modules are linked by Mag-Lev cars moving through an airless tunnel. These cars are controlled entirely by computer, and are easily sabotaged.

To remotely lock/unlock a door: Simple. Computer. Instant.

To remotely control an elevator: Difficult. Computer. 30 minutes.

To remotely control a Mag-Lev car: Routine. Computer. Instant.

To move through air shafts without getting lost: Difficult. Environmental Engineering. Instant. Uncertain.

*Referee's Note:* A character electing to move through the air system must attempt this task 1d10 times per 100 meters (squares on the map sheets) travelled. Difficulty is reduced to Simple if the character can consult a portacomp with a station reference chip or is being tracked and guided by other characters at a regular computer terminal via radio. *Total truth* means the character takes the correct path; *partial truth* means that he takes the wrong path, but becomes aware of the error upon undertaking the *next* task; *total failure* means the character is lost and will not realize it until he re-emerges into the open.

**Food:** Food supplies are unlikely to become a factor in this adventure. The time frame is too short for characters to run low on food except in extreme circumstances; even if they are cut off from normal food stores there are reserve stocks of survival rations and tanked water in any scooter bay or other vacc suit storage facility.

The referee is responsible for determining the outcome of more unlikely options, such as attempts to drug Berghoffer's food supply. The engineer is unlikely to use such a chancy weapon himself when so many alternatives exist.

**Computer Systems:** Control of the *Andrew Carnegie's* computer spells control of the station itself and, most probably, the difference between victory and defeat.

The station computer is a decentralized, highly sophisticated design which draws on the datastrip network itself for much of its processing capacity. This means that there is no single, vulnerable computer center that either side could eliminate, even if they were foolish enough to cripple the station by removing the mechanism that controls everything aboard. There are informational terminals in almost every compartment, plus a few limited-access control terminals at specific work stations that will accept programs related to that station only; the bridge and the engineering deck contain the only stations where commands governing any aspect of station function can be issued.

*Andrew Carnegie's* computer is self-programming; given a thorough description of intended aims it can quickly create a program capable of performing any desired task. It does have some rather elaborate fail-safe precautions to keep accidental program errors from killing the crew; when long programming times are specified in various tasks, the majority of the time is spent in getting around these fail-safe mechanisms and forcing the computer to accept the unsafe program.

An expert system designed to respond in as human a manner as possible (but lacking true artificial intelligence), the computer responds to the name "Andrew" or "Andy." It can provide flat-screen and voice output with equal ease, and holographic output in some areas of the station as well. Should Berghoffer decide to undertake an extensive reprogramming of the basic system logic,

the result will be erratic behavior shaped largely by the programmer's own personality. If this happens, the computer ceases to be a tool and becomes a formidable opponent with, fortunately, a rather low initiative. Under such circumstances no program discussed in this chapter will take more than a minute or two to implement, since the fail-safe mechanism will be totally offline.

The computer terminals on the bridge and in engineering can each be used in attempts to lock the other terminal out of the network. If this happens, the remaining terminal will be the only one capable of giving valid orders to the station. However, it would be possible to override that lockout order by hooking into the system through another work station and going through an extremely time-consuming process of "hacking." This would eventually allow the work station to become yet another master terminal capable of issuing any kind of program or order, including an end to the earlier lockout. No master terminal can order the computer to open up a lesser terminal as an additional master. Informational terminals (found in ring module cabins and offices) cannot be used to run any kind of new program or issue any orders.

To lock out a master terminal: Difficult. Computer. 1 hour.

To reprogram basic system logic/behavior: Impossible. Computer. 25 hours.

To access master terminal functions through a work station terminal: Formidable. Computer. 5 hours.

**Robots:** As the computer is the heart of the *Andrew Carnegie*, the robots carried inside the station are its hands. Designed to maintain the mammoth station (and so keep the required number of humans on board to profitable minimums), they carry out most of the heavy work on board. The robots also represent a potential army of hundreds that Berghoffer can use to carry out his plans.

Station robots can be controlled in one of two ways—as remotely piloted drones operated from a work station or master computer terminal, or as units under the supervision of the station computer functioning according to programs created to govern their operations. As drones they allow the projection of a character's abilities to any part of the station, including inaccessible or dangerous areas, but only one drone robot can be operated at a time. Preprogrammed units under station computer control can function totally without human supervision, but are much more limited in their ability to respond to threats or unexpected obstacles.

A third mode of operation is possible, but was not originally intended by the designers. This is to allow the robots to function strictly through onboard control programs, carrying out extremely limited duties without interference from the computer or a remote operator. It may become necessary for either Berghoffer or the players to resort to using robots in this independent mode in the course of the scenario.

Robots in remote drone mode can be fully controlled by an operator, performing any action he desires and carrying out tasks with a skill level slightly modified from the character's own. The robots are built for relatively limited purposes (repair of specific systems), so the orders given to them as drones should at least reflect the abilities of the robot, but within broad interpretations the robot can become a distant extension of the operator's will.

When setting up robots controlled by computer, a set of fairly basic orders should be written up controlling the actions of any robot or group of robots. Orders can consist of up to 10 distinct statements. An example might be this: "Move to nearest compartment. Enter compartment. Remove all electronic components.

Leave Compartment. Repeat. When optic sensors detect moving crewmembers stop movement. Scan area of movement. Relay scan to engineering screens. Await further instructions." The referee (or players in control of robots) should follow this set of instructions as literally and unimaginatively as possible.

Independent robots also follow a set of orders, but the set can contain no more than three statements. A robot modified by the addition of another robot's central processor or a portacomp wired into the system is capable of carrying out five statements in a set of orders.

To handle a remote drone robot in easy operations: Simple. Remote Pilot or Robotics. Instant.

To handle a remote drone robot in difficult operations: Difficult. Remote Pilot or Robotics. Instant.

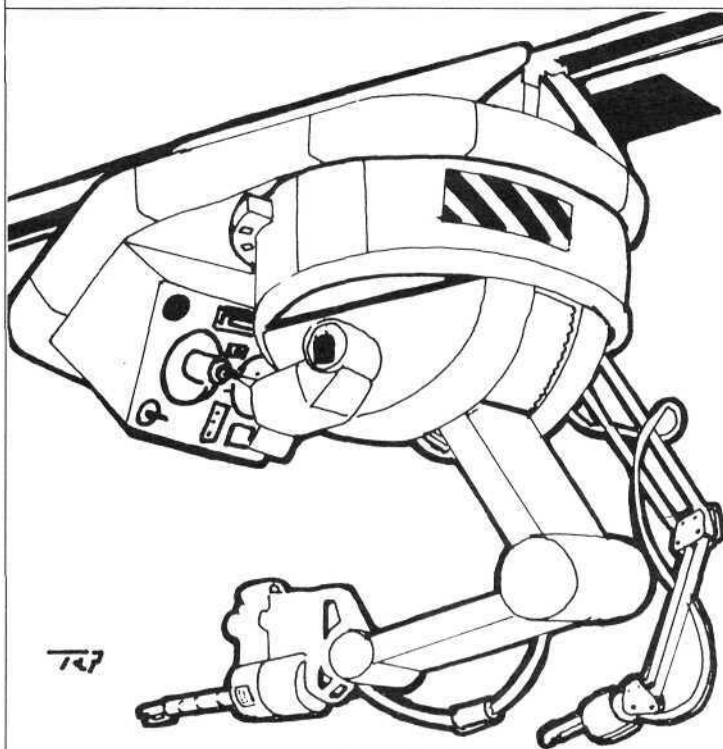
*Referee's Note:* You must judge the difficulty of an intended operation, based on the usual function of the robot and specific conditions or circumstances. One task is carried out to have the robot execute what is desired. Easy operations rolls can be ignored entirely for the sake of time, if desired.

To write new orders for one or more robots: Routine. Computer. 1 to 5 hours.

*Referee's Note:* Time will vary according to how much danger the orders pose to members of the human crew. Orders to collect electronic components, even from sensitive sensor mechanisms, won't take long. Those which involve shutting down life support to collect crucial components will take longer. Orders that involve having the robot actively attack human targets will take longer.

To issue new orders to one or more robots: Simple. Computer. Instant.

To modify a robot to independent mode: Difficult. Robotics. 1 hour.



*Referee's Note:* Robots in independent mode accept any orders, even those that threaten people, in minimum time. This makes them useful as soldiers with a limited but lethal set of responses.

To salvage a robot processor: Routine. Robotics or Electronics. 30 minutes.

To augment an independent robot with a portacomp or salvaged processor: Formidable. Robotics or Computer. 1 hour.

**Weaponry:** The OMS is unarmed, and large stocks of weapons are not supposed to be on board. Weaponry in this adventure will be personal equipment (generally limited to sidearms or, for the rescue party only, light military arms) or improvised weapons.

Practice lasers and foils in the gym will deliver a small electric shock. These can be modified to lethal force. Mining lasers can be used as semiportable artillery, or laser cutters can be dismantled from robots and used as sidearms. There are explosives on board, with the possibility of making more from materials in the lab.

To modify practice lasers: Routine. Electronics. 10 minutes.

To modify practice foils: Difficult. Electronics. 30 minutes.

To dismount mining lasers from scooter or exterior mounts: Routine. Mechanical. 10 minutes.

To dismount a robot laser: Difficult. Electronics. 15 minutes.

To mix 1 kilogram of EP= 1 plastique: Routine. Chemistry. 30 minutes.

*Referee's Note:* Requires material in sick bay lab. Increase difficulty by one and double time using materials in the galley.

**Screen Systems:** There are two major screening subsystems on board the *Andrew Carnegie*. One is the station's high-powered radiation screen, while the other is the tractor field used to manipulate ice chunks and operate the linear accelerator.

Neither side should mess with the radiation screens. Loss of those will kill everyone and contaminate the station. The other system has no direct bearing on the adventure, since it doesn't threaten the safety of Berghoffer or the crew. The engineer will be carrying out extensive modifications to this system throughout the adventure, but those alterations are not particularly important.

The bridge or engineering master terminals can draw any object located aft of the station and within about 500 meters—including scooters, vacc suited people, or the rescue ship—into the interior of the hub and under the fire of mining lasers. Once inside, scooters or people are at the mercy of direct attacks resolved normally (and are unable to move as long as the field stays on); the rescue ship, too large to fit inside the station, would crash into the hull with devastating results, in an effective, but rather messy, end. Items in front of the accelerator may be hit by ejected loads.

**Drive Systems:** Sabotage which occurs after the station has begun its plunge around Cocito could have serious repercussions for everyone.

To take drive systems offline: Routine. Computer. 2 minutes.

To put drive systems online: Routine. Computer. 2 minutes.

To cripple drive systems: Difficult. Ship Drive Engineering. 5 minutes.

To repair drive systems: Difficult. Ship Drive Engineering. 1 hour.

**Communications Systems:** Communications systems are useful for extra electronic components.

Once each hour, beginning with Berghoffer's entrance into the fourth stage of deterioration (unless the station robots are fully under crew control), roll 1d10. On a 1-3, no communications system is damaged; 4-6, damage to the intercom system; 7-9, interplanetary system; 10, both systems. On a second throw of 1d10, a 1-3 causes *superficial damage*; 4-6, *minor damage*; 7-9, *major damage*; and a 10 *destroys* the system.

A system can be damaged more than once, but damage equal to or less than previous is ignored. Damage is detectable when the system is used, unless the computer is under crew control.

To repair an intercom system: Routine. Electronics. 10 minutes.

*Referee's Note:* Difficulty is for *superficial damage*. Increase one level and double the time for each higher level; *destroyed* equipment is Impossible and takes 1 60 minutes to put right.

To repair a radio system: Difficult. Communications. 30 minutes.

*Referee's Note:* Difficulty is for *superficial damage*. Increase one level and double the time for each higher level; *destroyed* equipment is Impossible and takes 4 hours to put right.

**Sensor Systems:** These are also targets of Berghoffer's robots. Some will be useful to navigation. Sensors have little effect on play, except when loss limits detection of rescue ship or scooters.

**Spin Decoupler:** Potentially the most vulnerable part of the station, the spin decoupler keeps the aft portion under rotation while the forward section remains motionless. Moving at this rate builds up tremendous energy, and damage could cause a release of that energy that could tear the station apart. Berghoffer wouldn't dream of doing something like this. Setting explosive charges, firing missiles, or ramming a scooter into the spin decoupler would cause an imbalance in the forces and the breakup of the station.

To hit a vulnerable part of the spin decoupler: Routine. Engineering or Environmental Engineering or Ship Drive Engineering (choose one). Instant.

**General Notes:** Knowledge of shipboard systems is something most characters can be assumed to have, but players are less likely to know these details. The referee may explain specific systems and the sorts of things they might undertake (the text, but not the actual task information, in the sections above) in response to questions and may make the answers subject to a task.

Players do not know how to proceed can receive guidance by the successful resolution of a different sort of task.

To remember system information: Routine. Intelligence. Instant.

*Referee's Note:* This allows a character to realize there might be something important about a system even if the player doesn't. It imparts no information, just a suggestion.

To remember detailed system information: Difficult. 1 Skill. Instant.

*Referee's Note:* Skill varies with the system. The referee is the final arbiter of what skills are applicable to modify the roll.



# Player Dossiers

There are 21 people stationed on board the *Andrew Carnegie* at all times. Although some of these may be player characters, the rest are NPCs with very specific areas of expertise and distinct personalities. The material that follows contains a set of biographical dossiers which are kept on file in AMEC's computers, both aboard the OMS and in the company office on Inferno. The files show what the player characters are likely to know about the crew of the mining station (the referee has a separate reference section elsewhere that records specifics and/or items unsuspected by most of the characters). Note that the *referee* may replace some of the people mentioned here with player characters; he should specify which people listed in the dossier are not to be used in this adventure.

## ACCESS TO THIS INFORMATION

The dossiers listed here can be used by the referee and the players alike. However, as was already the case with other elements of background information, there is a limitation to how freely the players can use the dossiers in the heat of the game. They are free to read through this section prior to the start of play. Once the adventure is under way, though, they need to use either a computer terminal or the "memory" of their characters before they can look up specific dossier information. As before, they may feel free to take notes, and a player who remembers what he or she has read can assume that the character remembers that same information equally well.

As always, tasks are used to allow reference to this information.

To access personnel dossiers: Simple. Information Gathering. 10 minutes.

*Referee's Note:* requires the presence of a computer terminal or a portacomp equipped with a reference chip on the station. These are available only from the station computers or the files of AMEC on Inferno or at other company offices.

To remember personnel dossiers: Difficult. Intelligence. Instant.

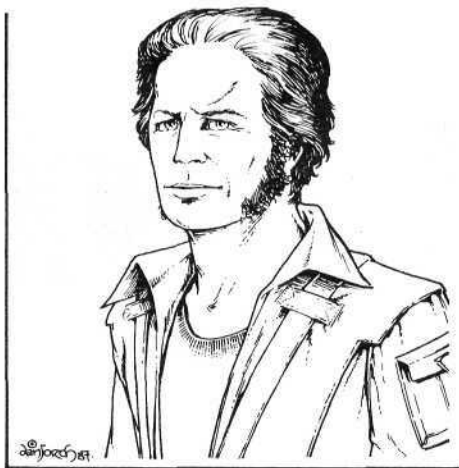
## DOSSIER FORMATS

Each dossier is laid out in identical fashion. They all give basic information on the backgrounds of individual NPCs, including name, position, nationality, year of birth, and past *career* experience. Although game stats are omitted, the dossiers do contain some information which at least indicates a character's relative

abilities. A **Physical Index** is given which shows the average of the game levels of Strength, Dexterity, and Endurance for the character. A *Very Low* index means that the average level for the three stats is 0-5; *Low* is an average of 6-10; *Average* runs 11-15; *High* 16-20, and *Very High* over 20. Each mental stat is rated separately in similar fashion. Finally comes a list of the character's skill qualifications and linguistic capabilities. A character is **Trained** in a skill if his skill level is 0 or 1, **Qualified** if the level is 2-4, has **Advanced Training** at level 5-7, or **Specialty Training** at levels 8-10. Not all game skills are listed here, only those that would be obviously measurable to a personnel office. With this information the *referee* can establish a good idea of any given character's strengths or weaknesses without having an entire character sheet to work with.

Also included is a brief psychological profile drawn up by company medical specialists. Though not entirely accurate, these profiles should give the players some idea of how the NPCs are likely to behave or react.

## Arthur Crichton



**NAME:** Arthur CRICHTON **POSITION:** Station Supervisor **NATIONALITY:** Great Britain **BIRTHDATE:** 2262 **CAREER BACKGROUND:** Administration **SEX:** Male **PHYSICAL INDEX:** Low **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** High **LANGUAGES SPOKEN:** English, French **TRAINING:** Sidearm, Ground Vehicle, Hover Vehicle **QUALIFICATIONS:** Information Gathering **ADVANCED TRAINING:** Computer, Psychology, Bureaucracy **SPECIALTY TRAINING:** None

**PROFILE:** Supervisor Crichton easily adjusts to any situation; his emotions are even and well modulated. He has a realistic attitude towards stress. He is judged to be persistent, ambitious, and practical.

## Suzanne Guiscard

**NAME:** Suzanne GUISCARD **POSITION:** Deputy Station Supervisor **NATIONALITY:** French (L-5 Colony) **BIRTHDATE:** 2263 **CAREER BACKGROUND:** Administration **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** High **ELOQUENCE:** Average **EDUCATION:** High **LANGUAGES SPOKEN:** French **TRAINING:** None **QUALIFICATIONS:** Vacc Suit, Hover Vehicle, Bureaucracy **ADVANCED TRAINING:** Computer, Psychology **SPECIALTY TRAINING:** Information Gathering

**PROFILE:** Ms. Guiscard shows exceptional emotional stability coupled with a high degree of mental agility. She has initiative and the ability to bring rational thought to bear on a problem. Recommended for decision-making and/or data-analysis positions.



## Dolph Jaeger



**NAME:** Dolph JAEGER **POSITION:** Chief Officer **NATIONALITY:** German **BIRTHDATE:** 2266 **CAREER BACKGROUND:** Technician **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** High **IQ:** Low **ELOQUENCE:** Low **EDUCATION:** High **LANGUAGES SPOKEN:** French, German **TRAINING:** Theoretical Sciences, Information Gathering, Mechanical **QUALIFICATIONS:** Hover Vehicle, Sensors **ADVANCED TRAINING:** Electronics **SPECIALTY TRAINING:** Computer, Communications

**PROFILE:** Officer Jaeger is judged as fully recovered from the injuries he received in the loss of the *Charles Goodyear*. However, psychological effects of the incident may continue to hamper his performance. He is judged to be very strong-willed and stubborn, with a high pain threshold and a solid dedication to duty.

## Anna Krueger



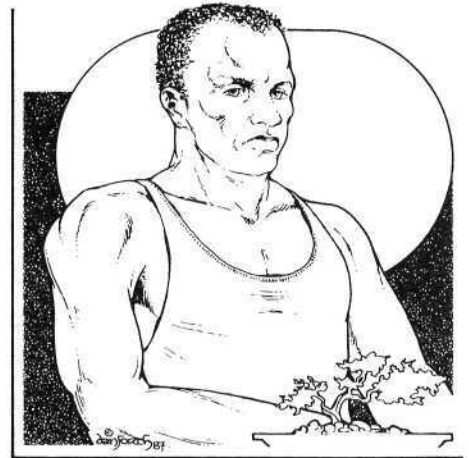
**NAME:** Anna KRUEGER **POSITION:** Second Officer **NATIONALITY:** German **BIRTHDATE:** 2266 **CAREER BACKGROUND:** Technician **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Low **EDUCATION:** High **LANGUAGES SPOKEN:** French, German **TRAINING:** Theoretical Sciences, Hover Vehicle, Information Gathering, Electronic, Mechanical **QUALIFICATIONS:** Pilot, Computer **ADVANCED TRAINING:** None **SPECIALTY TRAINING:** Sensors

**PROFILE:** Officer Krueger displays normal psychological responses in most areas of testing. She shows a particularly strong loyalty to her husband, Dr. Krueger—to the point where a conflict in loyalties between the company and her family would probably result in a decision against AMEC—but is well qualified and capable. It is doubtful if her posting would expose her to situations where her professional dedication might be placed in doubt.

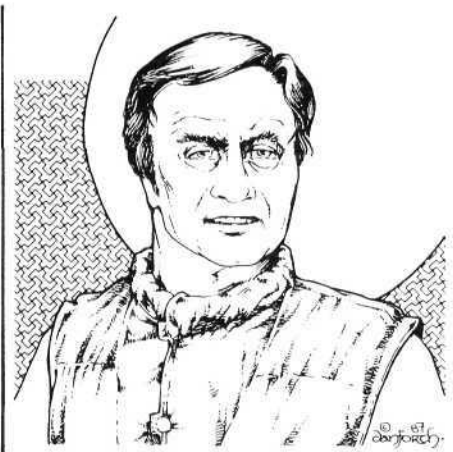
## Thomas M'Benka

**NAME:** Thomas M'BENKA **POSITION:** Third Officer **NATIONALITY:** Azanian **BIRTHDATE:** 2267 **CAREER BACKGROUND:** Ship Crew, Technician **SEX:** Male **PHYSICAL INDEX:** High **DETERMINATION:** High **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** High **LANGUAGES SPOKEN:** French, English **TRAINING:** Sea Vehicle, Bureaucracy, Information Gathering, Ground Vehicle, Mechanical, Ship Drive Engineering, Theoretical Sciences, Vacc Suit, Survival, Melee **QUALIFICATIONS:** Sensors, Sidearm, Communications, Pilot **ADVANCED TRAINING:** Electronics **SPECIALTY TRAINING:** Computer

**PROFILE:** Officer M'Benka shows several signs of a highly antisocial personality which could become a problem under stress conditions. His temperament is somewhat unstable, and he is capable of acts of physical violence far out of proportion to a given stimulus. Caution is advised in employing this individual in stress situations for long periods of time.



## Herman Berghoffer



**NAME:** Hermann BERGHOFFER **POSITION:** Chief Engineer **NATIONALITY:** German **BIRTHDATE:** 2259 **CAREER BACKGROUND:** Ship Crew, Technician **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Very Low **IQ:** High **ELOQUENCE:** Low **EDUCATION:** High **LANGUAGES SPOKEN:** French, German **TRAINING:** Pilot, Vacc Suit, Survival **QUALIFICATIONS:** Information Gathering, Electronic, Mechanical **ADVANCED TRAINING:** Bureaucracy, Theoretical Sciences, Robotics, Melee, Environmental Engineering **SPECIALTY TRAINING:** Computer, Ship Drive Engineering

**PROFILE:** Engineer Berghoffer is an intense individual who seems to have trouble relating on an interpersonal level. His high intelligence and professional competency make him an excellent technician, but his inability to become involved with fellow workers could make him something of a weak link in a team effort.

## Carlos Jiminez



**NAME:** Carlos JIMINEZ **POSITION:** Second Engineer **NATIONALITY:** Catalan **BIRTHDATE:** 2264 **CAREER BACKGROUND:** Technician **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** Average **LANGUAGES SPOKEN:** French, Spanish **TRAINING:** Ground Vehicle, Mechanical, Theoretical Sciences, Robotics, Ship Drive Engineering **QUALIFICATIONS:** Electronic, Environmental Engineering **ADVANCED TRAINING:** Information Gathering **SPECIALTY TRAINING:** Computer

**PROFILE:** Engineer Jiminez would appear to be a reliable and ambitious individual with a strong determination to do well in his assignment on the *Andrew Carnegie*. Results of his testing in the Catalan/French astronautics program have been verified by examinations given by company psychologists. Recommended for further training and advancement.

## William Kingsford

**NAME:** William KINGSFORD **POSITION:** Third Engineer **NATIONALITY:** British (Belt) **BIRTHDATE:** 2276 **CAREER BACKGROUND:** Technician **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Low **ELOQUENCE:** Average **EDUCATION:** Average **LANGUAGES SPOKEN:** French, English **TRAINING:** Ship Drive Engineering, Information Gathering, Theoretical Sciences, Bureaucracy **QUALIFICATIONS:** Electronic, Mechanical **ADVANCED TRAINING:** Computer **SPECIALTY TRAINING:** None

**PROFILE:** Engineer Kingsford is enthusiastic and energetic, although his competence does not yet equal his eagerness to work. He is capable of establishing and maintaining close relationships, but in the confined setting of an OMS, he could be too demanding in his need for companionship. Warnings to the station medical officer of these factors are in order.



## Hans Krueger



**NAME:** Hans KRUEGER **POSITION:** Medical Officer **NATIONALITY:** German **BIRTHDATE:** 2258 **CAREER BACKGROUND:** Academic **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Low **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** High **LANGUAGES SPOKEN:** French, German **TRAINING:** Information Gathering **QUALIFICATIONS:** Bureaucracy, Ground Vehicle **ADVANCED TRAINING:** Biology, Psychology, Computer **SPECIALTY TRAINING:** Medical

**PROFILE:** Dr. Krueger is a stable, well-grounded individual. He is practical, resourceful, and capable of coping with most forms of stress easily. Tests show an underlying streak of ruthlessness which can be interpreted as a desire to achieve goals at any cost, an excellent trait for the man who will be most responsible for maintaining the physical and emotional well-being of an entire station crew.

## Dominique Dumouriez



**NAME:** Dominique DUMOURIEZ **POSITION:** EVA Team Leader/Communications **NATIONALITY:** French (Aurore) **BIRTHDATE:** 2265 **CAREER BACKGROUND:** Belt Miner **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** Very High **LANGUAGES SPOKEN:** French **TRAINING:** Combat Rifleman, Zero-G, Vacc Suit **QUALIFICATIONS:** Sidearm, Melee, Demolitions, Mining, Communications, Scooter Pilot **ADVANCED TRAINING:** None **SPECIALTY TRAINING:** None

**PROFILE:** This subject shows an excellent potential for handling leadership positions. She is an independent person who can act in a forceful manner to accomplish her goals. Her temper could be a drawback to smooth working relationships in an OMS environment, but her ability to focus on and achieve goals with a minimum of supervision makes her a valuable addition to the company's roster.

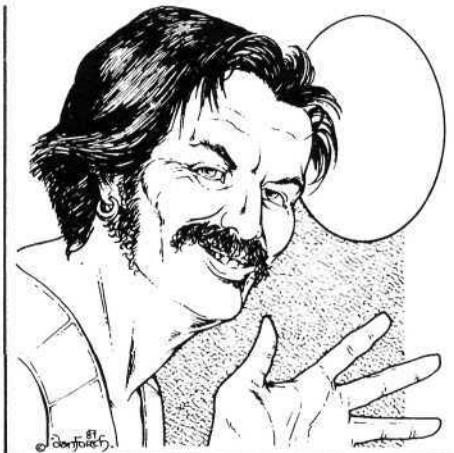
## Thomas Kendall

**NAME:** Thomas KENDALL **POSITION:** EVA Team Leader/Sensor Tech **NATIONALITY:** British **BIRTHDATE:** 2264 **CAREER BACKGROUND:** Belt Miner **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** Average **LANGUAGES SPOKEN:** French, English **TRAINING:** Bureaucracy, Hover Vehicle **QUALIFICATIONS:** Prospecting, Zero-G, Scooter Pilot, Demolitions, Mining **ADVANCED TRAINING:** Vacc Suit, Sensors **SPECIALTY TRAINING:** None

**PROFILE:** This subject displays a capacity for leadership and a strong drive to succeed. Latent discontent with authority figures coupled with a high self-doubt index may hamper the individual's ability to make decisions in high stress crisis situations, but he is judged quite capable of assuming responsibility for the routine activities of an EVA team.



## Angus MacReedy



**NAME:** Angus MACREEDY **POSITION:** EVA Team 1 **NATIONALITY:** British **BIRTHDATE:** 2264 **CAREER BACKGROUND:** Belt Miner **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** High **IQ:** Average **ELOQUENCE:** High **EDUCATION:** High **LANGUAGES SPOKEN:** French, English **TRAINING:** Hover Vehicle, Ground Vehicle, Sea Vehicle **QUALIFICATIONS:** Computer, Zero-G, Demolitions, Forward Observer, Melee **ADVANCED TRAINING:** Vacc Suit, Prospecting, Scooter Pilot, Mining **SPECIALTY TRAINING:** None

**PROFILE:** This subject is practical and highly resourceful. His performance will be consistent, though unspectacular. His adaptability should prove an asset to mining operations, and he shows a genial and cooperative manner that should make him fit in well with a station crew. A tendency towards eccentricity of speech and dress and an irreverence towards authority symbols may cause some friction, but on the whole this individual should prove reliable under almost any circumstances.

## James Rand



**NAME:** James RAND **POSITION:** EVA Team 1/Geologist **CAREER BACKGROUND:** Scout, Belt Miner **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Low **IQ:** Average **ELOQUENCE:** Low **EDUCATION:** Average **LANGUAGES SPOKEN:** French, English **TRAINING:** Combat Rifleman, Sidearm, Melee, Mechanical, Electronic, Sensors, Zero-G **QUALIFICATIONS:** Ground Vehicle, Scooter Pilot, Mining, Demolitions, Vacc Suit **ADVANCED TRAINING:** Computer, Geology, Prospecting **SPECIALTY TRAINING:** None

**PROFILE:** The subject suffers from a strong tendency towards claustrophobia associated with a recent landslide accident on Beta Canum Venaticorum. Though not normally a crippling affliction, he should be closely monitored for signs of high stress or anxiety and kept away from situations where close confinement is a problem. His competence and intelligence make him a valuable asset despite this potential psychological flaw.

## Charlotte Rand

**NAME:** Charlotte RAND **POSITION:** EVA Team 1 **NATIONALITY:** British **BIRTHDATE:** 2261 **CAREER BACKGROUND:** Prospector, Belt Miner **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** Average **LANGUAGES SPOKEN:** French, English **TRAINING:** Demolition, Survival, Melee **QUALIFICATIONS:** Hover Vehicle, Zero-G, Ground Vehicle, Mining, Vacc Suit **ADVANCED TRAINING:** Scooter Pilot, Forward Observer **SPECIALTY TRAINING:** Prospecting

**PROFILE:** This subject has impressed the testing panel with her remarkable emotional and mental stability. She is a highly self-sufficient individual with an exceptional degree of control over her reactions. She does show a strong bond of loyalty to her husband.



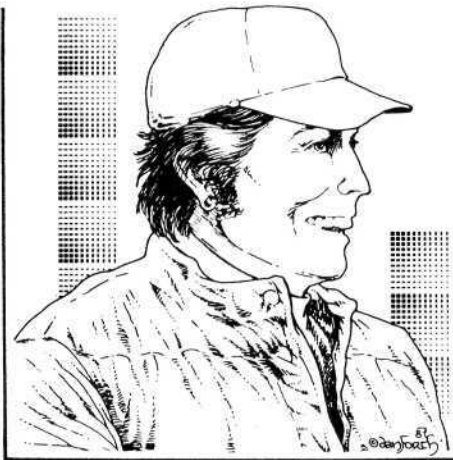
## Patrick O'Malley



**NAME:** Patrick O'MALLEY **POSITION:** EVA Team 1/Engineering **NATIONALITY:** British **BIRTHDATE:** 2257 **CAREER BACKGROUND:** Space Military, Belt Miner **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Low **EDUCATION:** Low **LANGUAGES SPOKEN:** French, English **TRAINING:** Bureaucracy, Computer, Mechanical **QUALIFICATIONS:** Combat Rifleman, Sidearm, Melee, Prospecting, Demolition, Mining, Vacc Suit, Pilot **ADVANCED TRAINING:** Electronic, Zero-G, Scooter Pilot **SPECIALTY TRAINING:** None

**PROFILE:** This subject should be carefully reviewed prior to employment. A violent nature and a need to dominate others as proof of his own capability are both factors revealed by psychological testing (and confirmed by medical service records from the Royal Space Corps). If hired, he should be placed in an environment where he has little opportunity to inflict his will on others.

## Ettiene Lemieux



**NAME:** Ettiene LEMIEUX **POSITION:** EVA Team 1 **NATIONALITY:** French  
**BIRTHDATE:** 2280 **CAREER BACKGROUND:** Belt Miner **SEX:** Male  
**PHYSICAL INDEX:** Low **DETERMINATION:** Average **IQ:** Low **ELOQUENCE:** Low **EDUCATION:** Low **LANGUAGES SPOKEN:** French **TRAINING:** Hover Vehicle, Ground Vehicle, Computer, Zero-G, Scooter Pilot, Demolition, Mining, Prospecting **QUALIFICATIONS:** Vacc Suit **ADVANCED TRAINING:** None **SPECIALTY TRAINING:** None

**PROFILE:** The subject's emotional and mental profiles show him to be an enthusiastic, if still somewhat immature, individual. As he gains experience and balance he can be expected to become an asset to the company. Expect him to go out of his way in trying to earn the respect and admiration of his fellows, a route which could involve some hazards to him. Extreme generosity coupled with optimism should make him fairly popular as a shipmate. He is capable of forming very strong friendships, but can be very demanding of attention from others.

## Caroline Banda

**NAME:** Caroline BANDA **POSITION:** EVA Team 2/Engineering **NATIONALITY:** Azanian (Inferno) **BIRTHDATE:** 2271  
**CAREER BACKGROUND:** Belt Miner **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** Low **IQ:** Average  
**ELOQUENCE:** Low **EDUCATION:** Average **LANGUAGES SPOKEN:** French, English **TRAINING:** Demolition, Vacc Suit, Zero-G, Mining **QUALIFICATIONS:** First Aid, Prospecting, Scooter Pilot, Melee, Electronic **ADVANCED TRAINING:** None **SPECIALTY TRAINING:** None

**PROFILE:** This subject's unusual colonial origin has left her poorly equipped for interpersonal relationships, and she could prove to be unwillingly to meet and interact with people. She has no talent whatsoever for decision making, and should not be placed in any sort of supervisory capacity. However, she is diligent, studious, and willing to work hard, and her loyalty index is remarkably high.

## Sandra Cathcart

**NAME:** Sandra CATHCART **POSITION:** EVA Team 2/Computer **NATIONALITY:** British (Alicia) **BIRTHDATE:** 2279  
**CAREER BACKGROUND:** Academic, Belt Miner **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** High  
**IQ:** Average **ELOQUENCE:** Average **EDUCATION:** Very High **LANGUAGES SPOKEN:** French, English, Russian  
**TRAINING:** Ground Vehicle, Vacc Suit, Zero-G, Scooter Pilot, Demolition, Mining, Pilot, Prospecting **QUALIFICATIONS:** Information Gathering **ADVANCED TRAINING:** Computer **SPECIALTY TRAINING:** Bureaucracy

**PROFILE:** This subject is not recommended for employment. Her aristocratic background makes her totally unsuited for work in an OMS, and she has difficulty in understanding the principles of teamwork. Tests show her to be stubborn, overbearing, and highly manipulative. The subject does show a capacity for prolonged effort and dedication and is ambitious; these factors could mitigate her character flaws to some degree.

## Gina Morelli

**NAME:** Gina MORELLI **POSITION:** EVA Team 2/Engineering **NATIONALITY:** French (naturalized Italian) **BIRTHDATE:** 2266 **CAREER BACKGROUND:** Ship Crew, Belt Miner **SEX:** Female **PHYSICAL INDEX:** Average **DETERMINATION:** High **IQ:** High **ELOQUENCE:** Average **EDUCATION:** Very High **LANGUAGES SPOKEN:** French, Italian **TRAINING:** Pilot, Scooter Pilot, Demolition, Mining, Electronic, Zero-G, Survival **QUALIFICATIONS:** Ground Vehicle, Prospecting, Information Gathering, Bureaucracy **ADVANCED TRAINING:** Ship Drive Engineer, Computer, Melee, Vacc Suit, Sidearm **SPECIALTY TRAINING:** None

**PROFILE:** This subject is an extremely practical and level-headed individual. Her competence may be marred at times by a tendency to hold—and vigorously express—strong opinions; she may at times alienate co-workers with the vehemence of her arguments. A strong aggressive streak indicates that she will bring her full talents to bear on any problem, but may be tempted to use forceful methods even when these are not the only options open.

## Wolfgang Hapke

**NAME:** Wolfgang HAPKE **POSITION:** EVA Team 2 **NATIONALITY:** German **BIRTHDATE:** 2271 **SEX:** Male **CAREER BACKGROUND:** Ground Military, Belt Miner **PHYSICAL INDEX:** Average **DETERMINATION:** Average **IQ:** Average **ELOQUENCE:** Average **EDUCATION:** Average **LANGUAGES SPOKEN:** French, German **TRAINING:** Heavy Weapons, Vacc Suit, Zero-G, Scooter Pilot, Mining **QUALIFICATIONS:** Hover Vehicle, Demolition, Prospecting, Survival, Ground Vehicle **ADVANCED TRAINING:** Combat Rifleman, Melee **SPECIALTY TRAINING:** None

**PROFILE:** This subject's reasons for joining the company may prove inadequate to keep him interested in prolonged employment. He is highly disciplined and will take orders well; he also exhibits some skill as a leader. Recommendation is for employment in non-essential capacities, so that his position can be easily filled if his commitment proves less than acceptable.

## Ilya Marenkhovich

**NAME:** Ilya MARENKHOVICH **POSITION:** EVA Team 2/Medical **NATIONALITY:** Ukrainian (Aurore) **BIRTHDATE:** 2264 **CAREER BACKGROUND:** Colonist, Belt Miner **SEX:** Male **PHYSICAL INDEX:** Average **DETERMINATION:** Low **IQ:** High **ELOQUENCE:** Low **EDUCATION:** High **LANGUAGES SPOKEN:** French, Russian **TRAINING:** Combat Rifleman, Melee, Sidearm, Zero-G, Scooter Pilot, Demolition, Mining, Forward Observer **QUALIFICATIONS:** Hover Vehicle, Survival, First Aid, Swimming, Vacc Suit, Prospecting **ADVANCED TRAINING:** Ground Vehicle, Sea Vehicle **SPECIALTY TRAINING:** None

**PROFILE:** The subject exhibits symptoms of a deep and unresolved guilt complex. As he has refused permission for in-depth probing, the source and nature of his difficulties is unknown; however, as a refugee from the Kafer invasion of Aurore, it can be assumed that his unstable emotional condition may stem from experiences there. In all likelihood the subject will perform well on the job, providing he is not subjected further to emotional stresses.

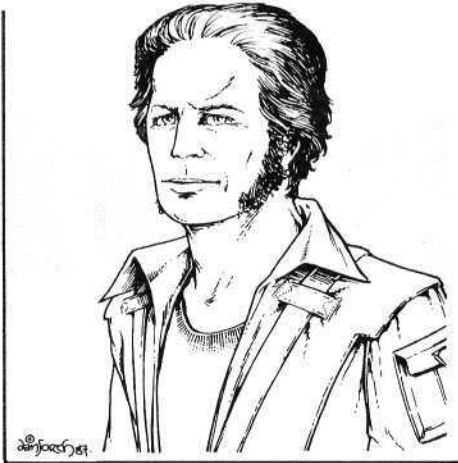


# Referee Dossiers

The pages which follow contain dossiers of the various crew personnel aboard the *Andrew Carnegie*. For the most part, the descriptions focus on background and motivations rather than game stats. Player characters should be created in the normal way; if the referee so desires, they may actually be some of the individuals described below; if not, some of these people should be deleted to make room for new player characters. The material in the *Dossiers* section gives guidelines as to the skills (and relative levels of skill) each character in the regular crew commands. These can be used or discarded as the *referee* desires in player-character generation; for NPCs, adhere to the *Dossiers* guidelines when the NPC is required to use skills in the game.

A few characters of potential importance are fully described here—referees are encouraged to read through this entire section to familiarize themselves with the main characters. One important character is Berghoffer, the main antagonist. Another is an industrial spy planted aboard the station by a rival company; he may help or hinder the progress of the adventure, or a completely different adventure situation can be built up around him exclusively. The station medical officer is described in detail because his actions will play a major part in determining how much the group learns about the situation, and how quickly. Finally, a fourth fully developed character is Suzanne Guiscard, officially the deputy station supervisor, but actually a troubleshooter representing AMEC and hunting for the spy on board. The *referee* is invited to use Guiscard as a way of passing down good advice or actual assistance to endangered characters as the adventure progresses.

## Arthur Crichton



**Name:** ARTHUR CRICHTON **Position:** Station Supervisor **Nationality:** British **Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2262 **Mass:** 100 kg **Eyesight:** Average **Hearing:** Excellent **Body Type:** Meso **Throw Range:** 72 m **Coolness Under Fire:** 5 **Encumbrance:** 28 kg **Native Language:** English **Other Languages:** None **Size:** 5 **Strength:** 9 **Dexterity:** 11 **Endurance:** 10 **Determination:** 12 **Intelligence:** 13 **Eloquence:** 12 **Education:** 17 **Consciousness:** 5 **Life Level:** 10 **Careers:** Administrator **Skills:** Bureaucracy-5, Information Gathering-1, Writing-1, Psychology-2, Imaging-2 **Money:** Lv230,000

The station supervisor is Arthur Crichton, a 38-year-old Briton from Liverpool. He has been in AMEC's employ since working as an Earthbound administrative assistant 15 years ago. In 2291 he realized his fondest dream, of being assigned to off-planet operations. He has held posts at AMEC offices around half a dozen stars. His last position was as deputy station supervisor aboard the *Henry Ford*. His superior there, Marianne Drake, liked his work and recommended him for the *Carnegie*.

Crichton is a large, strong man. He isn't a fighter; his expertise is in bureaucracy, computer operation, and the assembly and presentation of information. He dislikes strife and does what he can to keep the touchy personalities aboard the station on an even keel. He has a bland, even-tempered personality and tremendous resilience, but he isn't good at imposing his will on others.

Arthur Crichton is a Green NPC.

**Spin Operations:** 5

**NPC Motivation Results:** *Spade Ace:* Crichton is a charismatic natural leader. *Heart Seven:* He has a strong sense of loyalty to the company and to his subordinates.

## Suzanne Guiscard

**Name:** SUZANNE GUISCARD **Position:** Deputy Station Supervisor **Nationality:** French **Homeworld:** ESA L-5 Colony **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Female **Birthdate:** 2263 **Mass:** 80 kg **Eyesight:** Excellent **Hearing:** Exceptional **Body Type:** Normal **Throw Range:** 80 m **Coolness Under Fire:** 5 **Encumbrance:** 40 kg **Native Language:** French **Other Languages:** None **Size:** 10 **Strength:** 10 **Dexterity:** 14 **Endurance:** 16 **Determination:** 15 **Intelligence:** 16 **Eloquence:** 12 **Education:** 20 **Consciousness:** 4 **Life Level:** 8 **Careers:** Troubleshooter, Administrator **Skills:** Computer-3, Information Gathering-8, Hover Vehicle-3, Combat Rifleman-3, Sidearm-4, Melee-8, Streetwise-6, Survival-0, Stealth-1, Vacc Suit-3, First Aid-1, Bureaucracy-5, Writing-0, Psychology-5 **Money:** Lv18,000

Suzanne Guiscard is deputy station supervisor, but that is a cover for her real purpose: she is a troubleshooter retained by AMEC to investigate a rival company's industrial espionage. At 37, she has been a troubleshooter most of her life. Two years ago she retired to an administrative post with AMEC until now. She likes being back but hates lying to those she has come to respect and like.

Unarmed combat (savate) is her specialty, as is blade work, including classical fencing. She practices on board. For the spy, she suspects Berghoffer rather than the real plant, Jiminez. Guiscard's dossier as available to the players is different from the above. Suzanne Guiscard is an Experienced NPC. **Spin Orientation:** 5

**NPC Motivations:** *Club Ace:* Although she has no formal military training, her instincts are superb. *Heart Jack:* She is wise, shows good judgment, and offers sound advice. Her secretive nature and function means that she won't always volunteer help except when it is to her own benefit.



## Dolph Jaeger



**Name:** DOLPH JAEGER **Position:** Chief Officer **Nationality:** German **Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2266 **Mass:** 80 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 80 m **Coolness Under Fire:** 1 **Encumbrance:** 40 kg **Native Language:** German **Other Languages:** English **Size:** 10 **Strength:** 10 **Dexterity:** 10 **Endurance:** 11 **Determination:** 17 **Intelligence:** 8 **Eloquence:** 6 **Education:** 16 **Consciousness:** 4 **Life Level:** 8 **Careers:** Technician **Skills:** Theoretical Sciences-1, Mechanical-2, Information Gathering-1, Electronics-2, Ship Drive Engineering-1, Pilot-2, Computer-1, Leader-1, Sensors-1 **Money:** Lv23,000

Dolph Jaeger holds the rank of chief officer, answerable to the two administrators above him, but is the de facto ruler of the bridge deck. A tall, lanky man with a scarred face, Jaeger survived an explosion on the OMS *Charles Goodyear* in 2294, staying at his post coordinating evacuation. He was assigned to the *Andrew Carnegie* in recognition of his mastery of OMS computer and communications systems.

Under an emotionless exterior, he is a disturbed man, convinced space will one day finish the job it started. Fires and energy weapons terrify him (though he pretends otherwise). He is a Green NPC, but his extremely strong will makes him capable of amazing determination.

**Spin Operations:** 8

**NPC Motivations:** *Club Queen:* Dolph is stubborn and pigheaded. *Spade Six:* He shows a willingness to assume responsibility. For Jaeger, the highest ideal would be to be assigned to a ground-based technical research facility, but he refuses to make an effort to go after the job himself because of his uncertainties about his own motivations.

## Anna Krueger

**Name:** ANNA KRUEGER **Position:** Second Officer **Nationality:** German **Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Female **Birthdate:** 2266 **Mass:** 62 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 32 m **Coolness Under Fire:** 2 **Encumbrance:** 16 kg **Native Language:** German **Other Languages:** English, French **Size:** 4 **Strength:** 4 **Dexterity:** 14 **Endurance:** 12 **Determination:** 12 **Intelligence:** 13 **Eloquence:** 8 **Education:** 16 **Consciousness:** 3 **Life Level:** 6 **Careers:** Technician **Skills:** Theoretical Sciences-2, Hover Vehicle-1, Information Gathering-1, Electronics-2, Mechanical-1, Pilot-1, Computer-2, Sensor-1 **Money:** Lv44,000

Anna Krueger is second officer, in the bridge crew under Dolph Jaeger's command. Anna and Jaeger were schoolmates in Hamburg and talked for a time of marriage. They joined AMEC hoping to share duty stations but were separated. Before they met again Anna fell in love with and married Hans Krueger shortly before Jaeger's accident. She felt guilty about not being there for Jaeger when he needed her. The OMS had sudden vacancies for a bridge officer and a medical officer, and the two were transferred before Anna knew it was Jaeger's post as well.

Anna's main expertise is sensors during ice sweep operations, but she can stand watches in almost any position. She is a hard worker and a devoted wife.

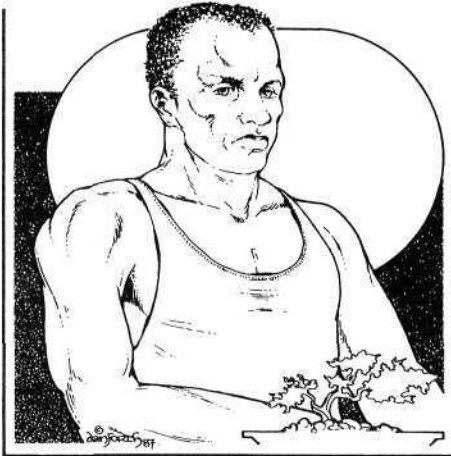
Anna Krueger is a Green NPC.

**Spin Operations:** 3

**NPC Motivations:** *Heart Queen:* Anna loves her husband and would sacrifice herself for him. Her relationship with Hans Krueger is not public. *Diamond Four:* She is cost conscious and interested in money. She and Hans are saving for a small starship to tour frontier posts with medical aid.



## Thomas M'Benka



**Name:** THOMAS KENDALL **Position:** EVA Team Leader **Nationality:** British  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2264 **Mass:** 63 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Ecto **Throw Range:** 72 m **Coolness Under Fire:** 3 **Encumbrance:** 40 kg **Native Language:** English **Other Languages:** French **Size:** 11 **Strength:** 9 **Dexterity:** 13 **Endurance:** 13 **Determination:** 11 **Intelligence:** 12 **Eloquence:** 13 **Education:** 12 **Consciousness:** 3 **Life Level:** 6 **Careers:** Belt Miner **Skills:** Bureaucracy-1, Hover Vehicle-1, Prospecting-3, Zero-G-2, Scooter Pilot-3, Demolitions-2, Mining-2, Vacc Suit-2, Sensors-1 **Money:** Lv54,000

Tom Kendall is the leader of the second EVA team. His father is a principal shareholder in AMEC, and some believe he owes his position to nepotism. This is not the case. He drives himself and his people hard to get results, but he isn't as calm and well balanced as Dumouriez. He can lose his nerve out of his fear of making a mistake. Despite all this, he is extremely competent.

Thomas Kendall is a Green NPC.

**Spin Orientation:** 6

**NPC Motivations:** *Spade Seven:* Kendall wants to assume responsibility and rise to a position of importance on his own, even though he is also afraid of that responsibility at times. *Heart Five:* He has a strong sense of loyalty to his group, and particularly to the people assigned to EVA Team Two. If he ever does let them down in a crisis, he will feel the failure all the more keenly because of the way he feels about these people.

## Herman Berghoffer

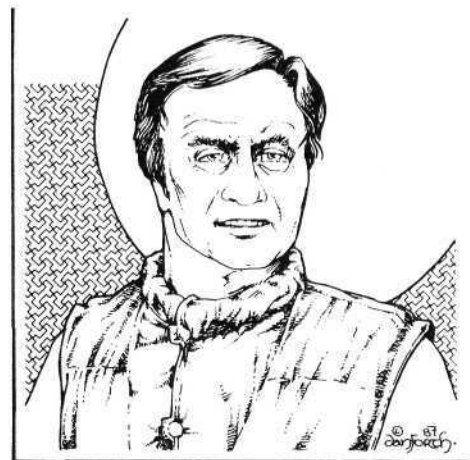
**Name:** HERMANN BERGHOFFER **Position:** Chief Engineer **Nationality:** Germany  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2259 **Mass:** 83 kg **Eyesight:** Average **Hearing:** Exceptional **Body Type:** Normal **Throw Range:** 88 m **Coolness Under Fire:** 4 **Encumbrance:** 44 kg **Native Language:** German **Other Languages:** French **Size:** 11 **Strength:** 11 **Dexterity:** 20 **Endurance:** 13 **Determination:** 5 **Intelligence:** 18 **Eloquence:** 6 **Education:** 18 **Consciousness:** 4 **Life Level:** 8 **Careers:** Ship Crew, Technician **Skills:** Computer-8, Bureaucracy-5, Information Gathering-3, Electronic-3, Mechanical-3, Theoretical Sciences-5, Robotics-6, Pilot-0, Ship Drive Engineering-9, Melee-4, Survival-0, Vacc Suit-1, Environmental Engineering-4 **Money:** Lv23,000

Berghoffer is chief engineer. He has a reputation as one of the most capable engineers in the employ of AMEC. Although Berghoffer is an excellent technician, he is not a very good instructor. A deep-seated resentment towards people who intrude in his work makes him hard to work with. Intensely private, Berghoffer has no friends. Extremely neat and precise in everything he does and says, he disapproves of slackness anywhere. Berghoffer is the pivotal character in this adventure. More on his behavior and activities is in the section on The Engineer.

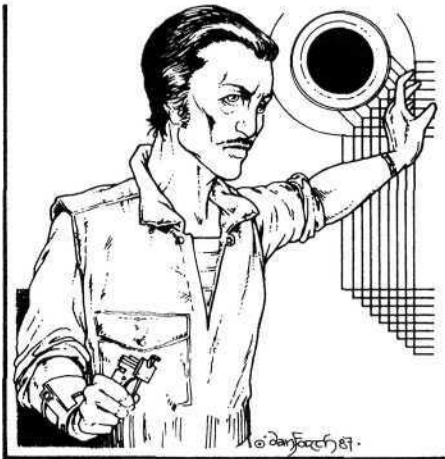
He is considered to be a Green NPC.

**Spin Operations:** 10

**NPC Motivations:** *Black Joker:* Berghoffer is considered quite insane throughout the course of this adventure. Note that this is NOT the case in adventures that do not revolve around the alien artifacts. *Spade Queen:* His insanity is expressed as a complete refusal to let anything or anyone stand in the way of his goal. His insanity is marked by progressive deterioration. When he is *not insane*, assume him to have the *Heart Jack* and *Club Four* motivations described in the *Referee's Manual*.



## Carlos Jiminez



**Name:** CARLOS JIMINEZ **Position:** Second Engineer **Nationality:** Argentina  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2764 **Mass:** 57 kg **Eyesight:** Exceptional **Hearing:** Excellent **Body Type:** Ecto  
**Throw Range:** 56 m **Coolness Under Fire:** 6 **Encumbrance:** 32 kg **Native Language:** Spanish **Other Languages:** French **Size:** 9 **Strength:** 7 **Dexterity:** 16  
**Endurance:** 16 **Determination:** 12 **Intelligence:** 14 **Eloquence:** 14 **Education:** 13  
**Consciousness:** 2 **Life Level:** 5 **Careers:** Technician, Field Agent **Skills:** Computer-8, Ground Vehicle-1, Information Gathering-6, Electronic-3, Mechanical-1, Theoretical Sciences-0, Environmental Engineering-5, Robotics-1, Streetwise-1, Forgery-1, Sidearm-3, Melee-3, Bureaucracy-0, Stealth-3, Psychology-1 **Money:** Lv18,000.

Holding the post of second engineer, Carlos Jiminez claims to be a Catalan on an ESA program with underdeveloped nations. But he is from Argentina and has worked for 12 years for Minería Recursos de Argentina, the government mining and exploitation company. This company wants the Nyotekundu ice contract, and there is rivalry between MRA and AMEC.

Jiminez is nervous and cautious. His orders are to look for ways AMEC could be made to fail in its contract. He is likely to take advantage of the confused situation with the minimum possible risk to himself. He might also become a red herring before the real culprit, Berghoffer, is discovered. The dossier for Jiminez (for player information) is inaccurate.

He is an Experienced NPC.

**Spin Operations:** 5

**NPC Motivations:** *Spade King:* Jiminez is a liar and a traitor to the station. *Diamond Jack:* He is a coward.

## William Kingsford

**Name:** WILLIAM KINGSFORD **Position:** Third Engineer **Nationality:** British  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2276 **Mass:** 83 kg **Eyesight:** Average **Hearing:** Excellent **Body Type:** Normal  
**Throw Range:** 88 m **Coolness Under Fire:** 2 **Encumbrance:** 44 kg **Native Language:** English **Other Languages:** French **Size:** 11 **Strength:** 11 **Dexterity:** 13  
**Endurance:** 9 **Determination:** 11 **Intelligence:** 7 **Eloquence:** 12 **Education:** 11 **Consciousness:** 4 **Life Level:** 8 **Careers:** Technician **Skills:** Ship Drive Engineering-3, Information Gathering-1, Theoretical Sciences-1, Bureaucracy-2, Electronic-1, Mechanical-2, Computer-1 **Money:** Lv102,000

William ("Billie") Kingsford is one of the newest members of the and is the third engineer. Born in the asteroid belt around Sol, he is British but has never seen Earth. He trained as a technician in one of the ESA asteroid colonies, then joined AMEC; the *Andrew Carnegie* is his first non-academic assignment. He is eager to please, and wants to make a good name for himself. He idolizes Berghoffer, his superior in engineering, but Berghoffer doesn't care much for him: The young Briton is too interested, too chatty, and too eternally cheerful for Berghoffer's taste.

These traits combine to make Kingsford a likely candidate for murder victim in the early stages of the adventure, since he is most likely to hamper Berghoffer's plans. If possible, Kingsford should not be replaced by a player character so there is one good, ready-made victim at hand among the NPCs.

Kingsford is a Green NPC.

**Spin Orientation:** 1

**NPC Motivations:** *Heart Six:* Kingsford has a strong sense of loyalty to his group, and especially toward Berghoffer. *Heart Three:* He is amiable and cooperative.



## Hans Krueger



**Name:** HANS KRUEGER **Position:** Medical Officer **Nationality:** Germany  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2258 **Mass:** 106 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Endo **Throw Range:** 104 m **Coolness Under Fire:** 1 **Encumbrance:** 50 kg **Native Language:** German **Other Languages:** French **Size:** 1 2 **Strength:** 13 **Dexterity:** 12 **Endurance:** 20 **Determination:** 9 **Intelligence:** 14 **Eloquence:** 1 2 **Education:** 18 **Consciousness:** 5 **Life Level:** 10 **Careers:** Academic **Skills:** Ground Vehicle-2, Computer-5, Bureaucracy-2, Information Gathering-0, Writing-0, Medical-8, Psychology-5, Biology-5 **Money:** Lv24,000

Doctor Krueger is a short, stocky man with a phlegmatic disposition and a fierce dedication to helping people. He views the frontier as the place where medical expertise is most needed. He loves his wife and gets along well with the others—at least on the surface. He doesn't like Jaeger because of the way the man upsets his wife. Still, Krueger is a manipulative man. He has a clear goal in mind—the purchase of a ship to act as a medical clinic—and he will do almost anything to get his way. The discovery of artifacts in the ring system has sparked his drive to succeed, and the protection of the finds and of his records dealing with them will outweigh all else. He hopes to use them to make a real name for himself as the man who discovered another alien race.

Krueger is a Green NPC.

**Spin Operations:** 3

**NPC Motivations:** *Spade Queen:* Krueger will let nothing stand in the way of any goal. He seems considerate, generous, loyal, or anything else that serves his purpose, but beneath the exterior, he ruthlessly uses others for his own gain. *Diamond Four:* He is cost conscious and interested in making money.

## Dominique Dumouriez

**Name:** DOMINIQUE DUMOURIEZ **Position:** EVA Team Leader **Nationality:** French **Homeworld:** Aurore **Gravity:** 0.743 G **Frontier/Core:** Frontier **Gender:** Female **Birthdate:** 2265 **Mass:** 77 kg **Eyesight:** Excellent **Hearing:** Average **Body Type:** Normal **Throw Range:** 72 m **Coolness Under Fire:** 6 **Encumbrance:** 36 kg **Native Language:** French **Other Languages:** None **Size:** 9 **Strength:** 9 **Dexterity:** 1 2 **Endurance:** 11 **Determination:** 1 2 **Intelligence:** 11 **Eloquence:** 11 **Education:** 19 **Consciousness:** 3 **Life Level:** 7 **Careers:** Belt Miner **Skills:** Combat Rifleman-1, Zero-G-1, Vacc Suit-3, Sidearm-1, Melee-1, Demolitions-2, Mining-2, Communications-1, Scooter Pilot-2 **Money:** Lv17,500

Born on the colony world of Aurore (Eta Bootis A IIC), Dumouriez left home 15 years ago, soon after her parents and younger brother were killed in a flooding tidal bore. She has ignored the fact that Aurore has been overrun by the Kafers, but deep down, she is in turmoil.

Dumouriez is brisk efficient, with experience in belt mining. Being EVA team leader of the station's Alpha Team has helped her develop leadership skills. She has a colonist's training in weaponry and is an excellent scooter pilot. She doubles up on communications duties on the bridge. Her no-nonsense attitudes bring her into frequent conflict with more easy-going members of the crew, particularly Angus MacReedy.

She should be treated as an Experienced NPC.

**Spin Orientation:** 8

**NPC Motivations:** *Heart Ten:* Dominique Dumouriez has a strong commitment to fairness, and reacts with anger to injustice or brutality. *Spade Seven:* She is willing to assume responsibility and wants to achieve a position of importance.



## Thomas Kendall



**Name:** THOMAS M'BENKA **Position:** Third Officer **Nationality:** Azanian **Homeworld:** Tirane **Gravity:** 0.9 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2267 **Mass:** 124 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Meso **Throw Range:** 136 m **Coolness Under Fire:** 3 **Encumbrance:** 60 kg **Native Language:** English **Other Languages:** French **Size:** 13 **Strength:** 17 **Dexterity:** 15 **Endurance:** 16 **Determination:** 17 **Intelligence:** 13 **Eloquence:** 12 **Education:** 18 **Consciousness:** 6 **Life Level:** 12 **Careers:** Ship Crew, Technician **Skills:** Sea Vehicle-1, Bureaucracy-2, Information Gathering-1, Ground Vehicle-1, Mechanical-2, Ship Drive Engineering-2, Theoretical Sciences-1, Vacc Suit-2, Survival-1, Melee-1, Sensors-1, Sidearm-2, Communications-2, Pilot-1, Computer-1 **Money:** Lv12,000

A black man whose physical prowess makes people underestimate his other abilities, M'Benka is an Azanian. Few take him seriously as a technical expert, but he is bright, well educated, and skilled in his craft. He does have a temper and was forced to resign as second officer of a trading vessel in the Chinese Arm after he broke a man's jaw for insulting his favorite hobby—bonsai gardening. He was accepted as third officer of the OMS and is happy to be in deep space.

M'Benka is a generalist, though officially his post is pilot. He can make a computer stand up and do handsprings when he puts his mind to it.

Thomas M'Benka is an Experienced NPC. He has some training in sidearms and melee combat and doesn't hesitate to use them.

**Spin Operations:** 5

**NPC Motivation:** *Spade Jack:* While he has been doing his best to keep his temper in check, he can fly off the handle for no reason. *Spade Eight:* He fights in the gym whenever he can find a willing sparring partner.

## Angus MacReedy

**Name:** ANGUS MACREEDY **Position:** EVA Team Member **Nationality:** British **Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2264 **Mass:** 92 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 112m **Coolness Under Fire:** 3 **Encumbrance:** 56 kg **Native Language:** English **Other Languages:** French **Size:** 14 **Strength:** 14 **Dexterity:** 8 **Endurance:** 9 **Determination:** 16 **Intelligence:** 11 **Eloquence:** 17 **Education:** 17 **Consciousness:** 4 **Life Level:** 9 **Careers:** Belt Miner **Skills:** Hover Vehicle-1, Ground Vehicle-1, Sea Vehicle-2, Computer-1, Zero-G-3, Demolitions-1, Forward Observer-1, Melee-1, Vacc Suit-2, Prospecting-2, Scooter Pilot-1, Mining-1 **Money:** Lv73,000

Born on Earth in a quiet Scottish fishing village, Angus MacReedy has been a belt miner for most of his adult life. He is independent. He signed on with AMEC after years as an independent prospector because of a run of bad luck, and he has found it hard to adapt to organized structure. His worst problem is dealing with Dominique Dumouriez, his EVA team leader.

Angus is casual, relaxed, and sharp-tongued, with a ready wit and a complete inability to keep his feelings to himself. His sarcasm sometimes gets him into trouble, but his superb skills (in scooter operation and forward observation of asteroid targets) make him indispensable. Under the fun-loving exterior, Angus is very competent.

Angus MacReedy is treated as an Experienced NPC.

**Spin Orientation:** 10

**NPC Motivations:** *Red Joker:* MacReedy is harmless and entertaining; his lighthearted, joking view of people makes him a (usually) welcome source of comic relief. *Heart Three:* He is amiable and cooperative, although too much pressure may bring out a stubborn streak.



## James Rand



**Name:** JAMES RAND **Position:** EVA Team Member **Nationality:** British  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2260 **Mass:** 103 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Endo **Throw Range:** 96 m **Coolness Under Fire:** 4 **Encumbrance:** 46 kg **Native Language:** English **Other Languages:** French **Size:** 11 **Strength:** 12 **Dexterity:** 11 **Endurance:** 14 **Determination:** 9 **Intelligence:** 11 **Eloquence:** 7 **Education:** 11 **Consciousness:** 5 **Life Level:** 10 **Careers:** Scout, Belt Miner **Skills:** Combat Rifleman-1, Sidearm-2, Melee-2, Mechanical-1, Electronic-1, Sensors-1, Zero-G-2, Ground Vehicle-1, Scooter Pilot-1, Mining-2, Demolitions-1, Vacc Suit-2, Computer-1, Geology-2, Prospecting-1 **Money:** Lv73,000

Rand was a scout working along the frontiers of the French Arm. He was born in Sol's asteroid belt, and is at home in deep space; planets tend to make him uncomfortable. During survey work on Beta Canum Venaticorum he was trapped underground by a landslide, which reinforced his latent claustrophobia. Enclosed spaces upset him, and he has attacks in which even a fair-sized compartment can seem confined. He is usually found in a lounge with outside video monitors turned on; even his cabin has monitors to relay the view of empty space he likes best.

Rand was saved from the cave-in by his wife-to-be, Charlotte. The two fell in love, married, and decided to put their joint experience as geological specialists into use in the area of belt mining.

James Rand is an Experienced NPC.

**Spin Orientation:** 7

**NPC Motivations:** *Heart Queen:* Rand loves his wife so completely that he would willingly sacrifice himself for her. *Diamond Three:* He is cost conscious and interested in making money.

## Charlotte Rand

**Name:** CHARLOTTE RAND **Position:** EVA Team Member **Nationality:** British  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Female **Birthdate:** 2261 **Mass:** 71 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 56 m **Coolness Under Fire:** 4 **Encumbrance:** 28 kg **Native Language:** English **Other Languages:** French **Size:** 7 **Strength:** 7 **Dexterity:** 15 **Endurance:** 11 **Determination:** 11 **Intelligence:** 12 **Eloquence:** 11 **Education:** 12 **Consciousness:** 3 **Life Level:** 7 **Careers:** Prospector, Belt Miner **Skills:** Demolition-1, Survival-1, Melee-1, Hover Vehicle-1, Zero-G-1, Ground Vehicle-2, Mining-2, Vacc Suit-1, Scooter Pilot-1, Forward Observer-1, Prospecting-3 **Money:** Lv66,000

Born on Earth, Charlotte Rand emigrated to Beta Canum Venaticorum after finishing her education. She became a prospector searching for ores in the mountains of the north central area of the British Continent. She developed an affinity for her work, learning to read the shapes and distribution of rocks. Although she never took formal training as a geologist, her practical experience proved nearly as valuable as any amount of schooling in the science would.

Charlotte saved James Rand from a landslide, fell in love, and married him. She gave up her planetbound mining career because of his difficulty in dealing with ground life. A lingering wistfulness for her past life still haunts Charlotte, but she loves her husband very much and the two of them find their work for AMEC very rewarding financially.

Charlotte Rand is an Experienced NPC.

**Spin Orientation:** 4

**NPC Motivations:** *Heart Queen:* Charlotte loves her husband so completely that she would willing sacrifice herself for him. *Diamond Seven:* Making money is her first concern, and she haggles over prices.



## Patrick O'Malley



**Name:** PATRICK O'MALLEY **Position:** EVA Team Member **Nationality:** British  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2257 **Mass:** 109 kg **Eyesight:** Average **Hearing:** Excellent **Body Type:** Meso  
**Throw Range:** 96 m **Coolness Under Fire:** 4 **Encumbrance:** 40 kg **Native Language:** English **Other Languages:** French **Size:** 8 **Strength:** 12 **Dexterity:** 13  
**Endurance:** 10 **Determination:** 15 **Intelligence:** 16 **Eloquence:** 11 **Education:** 10  
**Consciousness:** 5 **Life Level:** 10 **Careers:** Space Military, Belt Miner **Skills:** Combat Rifleman-2, Sidearm-1, Melee-1, Prospecting-2, Demolition-2, Mining-1, Vacc Suit-2, Pilot-1, Electronics-1, Zero-G-1, Scooter Pilot-2 **Money:** Lv5000

O'Malley became a belt miner after several terms in Great Britain's military space arm. Large and muscular, he is the typical drill sergeant. He was forced to leave the service after accidentally killing a private under questionable circumstances—in fact, his actions called the entire policy of squad-level discipline into question. O'Malley drifted into mining with AMEC; his training as a pilot made him a natural for the job.

He still has the behavior of a bully. Usually this involves nothing worse than humiliation or excessive verbal abuse. He has learned to leave some people alone—MacReedy and Dumouriez—but an inexperienced newcomer like Lemieux is an ideal target for his spite.

O'Malley is an Experienced NPC.

**Spin Orientation:** 8

**NPC Motivations:** *Club King:* O'Malley is a sadistic brute who enjoys inflicting pain (though not necessarily physical pain) on others. *Club Nine:* He loves a good fight and is quite likely to resort to violence to solve any problem or difficulty, even those that don't really warrant such a response.

## Ettiene Lemieux

**Name:** ETTIENE LEMIEUX **Position:** EVA Team Member **Nationality:** French  
**Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2280 **Mass:** 57 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Ecto **Throw Range:** 56 m **Coolness Under Fire:** 5 **Encumbrance:** 32 kg **Native Language:** French **Other Languages:** None **Size:** 9 **Strength:** 7 **Dexterity:** 12 **Endurance:** 6  
**Determination:** 12 **Intelligence:** 8 **Eloquence:** 9 **Education:** 8 **Consciousness:** 2  
**Life Level:** 5 **Careers:** Belt Miner **Skills:** Hover Vehicle-1, Ground Vehicle-1, Computer-1, Zero-G-1, Scooter Pilot-1, Demolition-1, Mining-1, Prospecting-1, Vacc Suit-1 **Money:** Lv3500

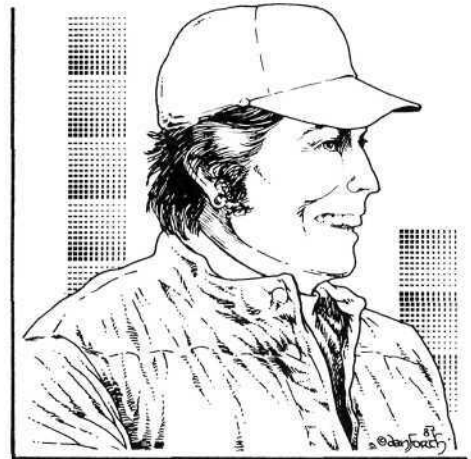
The youngest and least experienced crewmember, Ettiene Lemieux is a starry-eyed innocent on his first prolonged off-world trip. He was posted to the OMS for training after being accepted as a new employee by AMEC, but, except for basic orientation training and the skills he's picked up since joining, Lemieux is still almost completely unskilled.

His most noticeable characteristic is his youthful enthusiasm. Lemieux has become attached to Angus MacReedy, to the older man's cynical disgust. O'Malley treats him as a target for his sadistic wit. The crew—even MacReedy—can't help but find the young Frenchman likeable, if a bit of a nuisance. Lemieux is particularly excited by the fact that he was the one to discover the artifacts during an ice sweep.

Ettiene Lemieux is a Green NPC.

**Spin Orientation:** 1

**NPC Motivations:** *Diamond Ace:* Lemieux is generous to a fault, and gives whatever he can to those in need. His help is often more of a hindrance than it is useful. *Heart Queen:* Lemieux is so devoted to Angus MacReedy that he would sacrifice himself to save him. This dedication makes the younger man hard to turn away or ignore.



## Caroline Banda

**Name:** CAROLINE BANDA **Position:** EVA Team Member **Nationality:** Azanian **Homeworld:** Inferno **Gravity:** 0.78 G **Frontier/Core:** Frontier **Gender:** Female **Birthdate:** 2271 **Mass:** 77 kg **Eyesight:** Excellent **Hearing:** Average **Body Type:** Normal **Throw Range:** 72 m **Coolness Under Fire:** 4 **Encumbrance:** 36 kg **Native Language:** English **Other Languages:** French **Size:** 9 **Strength:** 9 **Dexterity:** 12 **Endurance:** 12 **Determination:** 13 **Intelligence:** 8 **Eloquence:** 8 **Education:** 9 **Consciousness:** 3 **Life Level:** 7 **Careers:** Belt Miner **Skills:** Demolition-1 Vacc Suit-1, Zero-G-2, Mining-1, First Aid-2, Prospecting-2, Scooter Pilot-1, Melee-2, Electronics-1 **Money:** Lv102,000

A tall, slender black woman with a hesitant manner, Caroline Banda has the distinction of being one of the few people actually born on Inferno. Although families are frequently employed at both the outposts there, tours of duty are usually short and it is rare for a child to be born and raised on the hostile world. Caroline's father was the medical officer at the Azanian outpost at Naragama; her mother was a research scientist working on the solar weather project. They remained on Inferno for an unusually long time—long enough for Caroline to reach adulthood and decide, when they finally did rotate back to Earth-side duty, to sign on as an AMEC employee. She then joined the *Andrew Carnegie*.

Caroline is rather uncertain about her own ambitions. She is a shy, withdrawn sort who doesn't make decisions well, and seems to be drifting in search of a calling. She does have an affinity for working with her hands, and works with Berghoffer's engineering staff as an electronics technician when not employed as an EVA team member. Serious and studious, she is one of the few people who gets along well with Berghoffer.

Caroline Banda's colonial upbringing and subsequent training make her an Experienced NPC.

**Spin Orientation:** 6

**NPC Motivations:** *Heart Seven:* Caroline has a strong sense of loyalty to her comrades on the station, and especially to Berghoffer. *Club Four:* She is not frightened or intimidated by violence or its threat. Banda is skilled in melee and won't hesitate to use her skill as needed.

## Sandra Cathcart

**Name:** SANDRA CATHCART **Position:** EVA Team Member **Nationality:** British **Homeworld:** Queen Alice's Star **Gravity:** 0.78 G **Frontier/Core:** Frontier **Gender:** Female **Birthdate:** 2279 **Mass:** 74 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 64 m **Coolness Under Fire:** 2 **Encumbrance:** 32 kg **Native Language:** English **Other Languages:** French, Russian **Size:** 8 **Strength:** 8 **Dexterity:** 11 **Endurance:** 13 **Determination:** 18 **Intelligence:** 12 **Eloquence:** 12 **Education:** 20 **Consciousness:** 3 **Life Level:** 7 **Careers:** Academic, Belt Miner **Skills:** Ground Vehicle-0, Vacc Suit-1, Zero-G-1, Scooter Pilot-1, Demolition-1, Mining-1, Pilot-1, Prospecting-2, Information Gathering-3, Computer-2, Bureaucracy-2 **Money:** Lv223,000

Sandra Cathcart is the youngest daughter of the Duke of Alicia. Though born at her father's estate at the colony of Queen Alice's Star, she was raised on Earth. Like Tom Kendall, Lady Sandra found that her background paved the way for her advancement; unlike the EVA team leader, however, she was never particularly upset by this basic fact of life. But, she proved to be a stubborn and rebellious young lady who reacted poorly to her widower father's efforts to keep her under control. After attending Oxford for three years Lady Sandra couldn't take the restrictions any more and ran away, leaving behind her money and her position alike. She used a boyfriend's parent's connections with AMEC to wangle a job as a miner, believing that it would be an exciting and romantic life. Lady Sandra was very disappointed.

Now, though, she cannot back out. She has been cut off from family funds and isn't willing to back down and beg for forgiveness; this doesn't leave her with many options. Therefore, Lady Sandra keeps on working as a computer technician/EVA team member, although she isn't particularly good at the latter. Slowly, she has begun to shed the irritating mannerisms of a spoiled rich kid and grow up, but it was and still is a painful process. Her comrades don't think much of her blue-blooded arrogance, but they have come to respect her expertise as a programmer and her determination to make it on her own now that the die has been cast.

Lady Sandra Cathcart is a Green NPC.

**Spin Orientation:** 3

**NPC Motivations:** *Spade Jack:* Sandra is often pompous and arrogant, clearly considering herself superior to others. She is trying to control this behavior, but the changes come slowly. *Spade Eight:* She is both ambitious and very manipulative, trying to get those around her to help her achieve her own ends. Sandra expects people to be glad to help her and is often surprised when her demands prove fruitless.

## Gina Morelli

Name: GINA MORELLI **Position:** EVA Team Member **Nationality:** French **Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Female **Birthdate:** 2266 **Mass:** 77 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 72 m **Coolness Under Fire:** 5 **Encumbrance:** 36 kg **Native Languages:** French and Italian **Other Languages:** None **Size:** 9 **Strength:** 9 **Dexterity:** 12 **Endurance:** 11 **Determination:** 16 **Intelligence:** 17 **Eloquence:** 12 **Education:** 19 **Consciousness:** 3 **Life Level:** 7 **Careers:** Ship Crew, Belt Miner **Skills:** Pilot-2, Scooter Pilot-1, Demolition-1, Mining-1, Electronic-1, Zero-G-2, Survival-1, Ground Vehicle-1, Prospecting-1, Information Gathering-2, Bureaucracy-1, Ship Drive Engineering-1, Computer-1, Melee-1, Vacc Suit-1, Sidearm-2 **Money:** Lv42,000

An Italian by birth, Gina Morelli's family took up French citizenship while she was still young, and Gina took training as a shipboard engineer. She was a junior engineering technician aboard the ill-fated space liner *Commerce de Lyon*, surviving the ship's disastrous destruction in a meteor shower during its passage to Kimanjano. When the ship's owners couldn't recover the insurance money, the company went bankrupt and the survivors were left to make their own way. Morelli took employment as a miner/technician with AMEC.

Practical, competent, and tough, Gina is very good at what she does. Her engineering skills are much better than her mining expertise, since she is a fairly recent OMS recruit, but she is applying herself in order to master her new trade as efficiently as she did the old one. Morelli is determined to better herself and is undeterred by any odds; she doesn't know how to give up even when faced with an impossible task. She is also a very accomplished fighter, with several prizes for competitive pistol shooting and a great deal of skill both in brawling and in fencing (which she likes to practice in the station gym during her off hours). Her relationship with Berghoffer, her supervisor on board, is stormy; he acknowledges her talents, but finds her too argumentative and stubborn to be a good subordinate.

Gina is an Experienced NPC.

**Spin Orientation:** 8

**NPC Motivations:** *Heart Ten:* Morelli has a strong commitment to fairness and reacts with anger to injustice or brutality. This puts her at odds with Patrick O'Malley on a fairly regular basis. *Club Seven:* She is aggressive and accepts violence as a means of solving problems.

## Wolfgang Hapke

Name: WOLFGANG HAPKE **Position:** EVA Team Member **Nationality:** German **Homeworld:** Earth **Gravity:** 1.0 G **Frontier/Core:** Core **Gender:** Male **Birthdate:** 2271 **Mass:** 97 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Endo **Throw Range:** 72 m **Coolness Under Fire:** 5 **Encumbrance:** 38 kg **Native Language:** German **Other Languages:** French **Size:** 9 **Strength:** 10 **Dexterity:** 13 **Endurance:** 15 **Determination:** 12 **Intelligence:** 12 **Eloquence:** 11 **Education:** 13 **Consciousness:** 4 **Life Level:** 9 **Careers:** Ground Military, Belt Miner **Skills:** Heavy Weapons-2, Vacc Suit-2, Zero-G-1, Scooter Pilot-0, Mining-1, Hover Vehicle-2, Demolition-2, Prospecting-1, Survival-2, Ground Vehicle-1, Combat Rifleman-3, Melee-2 **Money:** Lv22,000

Hapke served in the Free Bavarian Legion during the War for German Reunification. This unit of Bavarian nationals was part of the alliance against the idea of German nationalism, and ultimately found itself on the losing side. Hapke, a corporal at the time of the final treaty, learned that his family's political activities in Munich had made him *persona non grata* with the new government, so he resigned from the military and went into space to escape a bad situation.

A fine, disciplined soldier with a great deal of experience in AFVs, Hapke is still a little uncomfortable as a belt miner. He lacks any of the technical skills that would allow him to back up any of the other departments aboard the OMS, so he is something of a "gofer" who works at any semiskilled task that comes up. If the station needed a security man, Hapke would be it; he has recently found himself becoming frustrated by his new life and eager for a scrap of some kind. His chief goal right now is to earn enough money to leave AMEC and go out to the Kafer frontier to join a mercenary unit.

Hapke is an Experienced NPC.

**Spin Orientation:** 3

**NPC Motivations:** *Club Ten:* Hapke loves a good fight and wishes he could put his combat experience to use. *Diamond Six:* Making money is currently his first consideration, and he is noted for haggling over prices, wages, and bonuses to squeeze the most money out of any situation.

## Ilya Marenkhovich

**Name:** ILYA MARENKHOVICH **Position:** EVA Team Member **Nationality:** Ukrainian **Homeworld:** Aurore **Gravity:** 0.743 G **Frontier/Core:** Frontier **Gender:** Male **Birthdate:** 2264 **Mass:** 74 kg **Eyesight:** Average **Hearing:** Average **Body Type:** Normal **Throw Range:** 64 m **Coolness Under Fire:** 3 **Encumbrance:** 32 kg **Native Language:** Russian **Other Languages:** French **Size:** 8 **Strength:** 8 **Dexterity:** 14 **Endurance:** 11 **Determination:** 8 **Intelligence:** 16 **Eloquence:** 7 **Education:** 16 **Consciousness:** 3 **Life Level:** 7 **Careers:** Colonist, Belt Miner **Skills:** Combat Rifleman-2, Melee-1, Sidearm-1, Zero-G-1, Scooter Pilot-1, Demolition-0, Mining-1, Forward Observer-1, Hover Vehicle-1, Survival-1, First Aid-2, Swimming-1, Vacc Suit-1, Prospecting-2, Ground Vehicle-1, Sea Vehicle-1 **Money:** Lv200,000

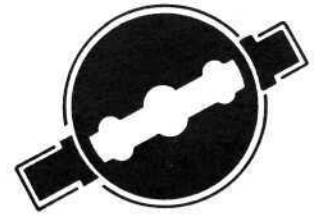
Born in the Novoa Kiyev region of Aurore (Eta Bootis IIC), Marenkhovich was an average colonial who worked in his father's fishing business. In 2298, his peaceful life was by the invasion of Aurore by the Kafers. Ilya was the only member of his family to survive the attack. As many of the Ukrainian forces were banding together to form guerrilla units, Marenkhovich made his way to the Tanstaaf colony and thence off-planet with other refugees. He turned his back entirely on the planet of his birth and signed on as a miner with an AMEC recruiter at Inferno.

The Russian is an enigmatic figure, consumed by grief and guilt, but unwilling to face or even acknowledge what has happened. None of the others on the station know that he panicked and hid when the Kafers attacked his family home; he actually watched his parents, brothers, and sister die at the hands of the aliens without making any effort to help them. This cowardice is gnawing at him, and behind his reserved mask Ilya is vacillating between a desire to return to Aurore and fight and a growing conviction that he is too much of a coward to ever face danger. His confusion and these feelings of guilt could drive him to extremes of action in a crisis, but whether he would become a hero or a complete coward is very hard to say.

Marenkhovich is a Green NPC.

### **Spin Orientation: 3**

NPC Motivations: *Diamond Jack:* Marenkhovich is a total coward who will run away from danger at every opportunity... *or Club Jack:* He is subject to violent and dangerous thinking, but unless pushed to his limits will not take action! Timid in most tight situations, if the right elements set him off he could become a formidable opponent.



# Echoes of the Past

## PREPARING FOR PLAY

The referee must decide which starting option will be used for this adventure. In one version, the characters are a part of the crew of the Deep Space Orbital Mining Station *Andrew Carnegie*, caught up in a mystery that begins after a strange discovery is made by accident. The second version starts with the characters on the planet Inferno, being approached by authorities of the Aberdeen Mineral Exploitation Company to investigate a distress call *broadcast* by the *Andrew Carnegie*. Either method is a suitable way to involve the group in subsequent events of the scenario.

Characters may be created from scratch using the **Traveller: 2300** generation rules, or brought in from previous adventures or campaigns. The summary of tasks used in this module will offer useful hints as to the sort of skills and experience that will be useful. At least some of these skills should be represented in any particular group. Note the different emphasis of careers and skills between the crew of the *Andrew Carnegie* and the rescue team dispatched later, and bear this in mind when working on characters generated from scratch.

The notes that follow are divided according to the nature of the adventure established by the *referee*. Players should be given the material that applies to their situation *only*.

## ABOARD THE ANDREW CARNEGIE

The adventurers are in the employ of the Aberdeen Mineral Exploitation Company, a widespread mining company with interests throughout much of the French and American Arms of explored space. They have been assigned to DS/OMS 4 *Andrew Carnegie*, an immense space station with an orbit extending through the ring system of a gas giant in the Nyotekundu star system. They have just begun a fairly long tour of duty that promises to be dull but financially rewarding.

The *Andrew Carnegie* carries a sizable inventory of useful equipment for mining, EVA work, and deep-space operations of all kinds. Characters may, however, wish to purchase extra equipment before beginning the adventure. They may use any of the money they currently have available, but there is a 30 kilogram mass limit imposed by the company on material to be transported out to the station. Characters must stick to this mass limit in making their purchases, or leave behind excess equipment in storage at the company's office on Inferno at no charge for the duration of the tour. Characters who have acquired excess gear from past campaigns may do likewise.

Once equipment has been purchased, the characters should be assigned to positions within the *Andrew Carnegie*. If players use one of the pregenerated NPCs as a character, that character will already have a position within the crew. Player characters from outside the module will be assigned positions, possibly *replacing* some crewmembers provided in the module. There are 21 people on board the *Andrew Carnegie* at the start of the adventure, each with a specific function on board. No character may take on an assigned position without going through *Training Mission*. To determine assigned position, use the following criteria:

**Position:** Station Supervisor (1)

**Required Skills:** Bureaucracy

**Recommended Skills:** Computer, Information Gathering

**Position:** Deputy Station Supervisor (1)

**Required Skills:** None

**Recommended Skills:** Computer, Bureaucracy, Information Gathering

**Position:** Bridge Officers (3)

**Required Skills:** None

**Recommended Skills:** Communications, Sensors, Pilot, Remote Pilot *Note:* Highest level of Communications skill indicates department head.

**Position:** Engineering Officers (3)

**Required Skills:** Ship Drive Engineering

**Recommended Skills:** Electronic, Mechanical *Note:* Highest level of Ship Drive Engineering skill indicates department head. In most versions of the adventure, the *referee* should see to it that the NPC Hermann Berghoffer is chief engineer. The character should not normally be allowed as a player character, and if, a PC generates a higher level of the requisite skill, Berghoffer's level should be raised higher automatically to keep him in charge. However, the Suggestions for the Referee discuss an alternative that may be implemented if the *referee* so desires.

**Position:** EVA Personnel: (12)

**Required Skills:** None

**Recommended Skills:** Prospecting, Vacc Suit, Geology, Zero-G, Scooter Pilot *Note:* Zero-G and Scooter Pilot are new skills discussed later in this module, and so are only available to characters created specially for this adventure. Two individuals will

be assigned as EVA team leaders; these will be the individuals with the highest level of Leader skill in the crew.

*General Notes:* A character must have certain required skills to fill some specific positions. If more characters have required skills than there are available positions, then those characters with the highest skill levels get first choice of the positions. However, player characters are always preferred to NPCs. Recommended skills merely show what would be particularly useful to fill that position. Even unskilled characters can be assigned to a particular position if it has no required skills listed; such characters are trainees expected to learn their duties on the job after minimal instruction by more qualified superiors. Team leaders and department heads should have at least one recommended skill in addition to any required skills. The numbers in parentheses after each position title show the number of positions of that type on board.

Once positions are assigned, the adventure can begin. It is suggested that the *referee* allow the players to read the contents of Ice Sweep, a fictionalized lead-in to the situation that outlines various facts known at the start. Note that this narrative gives various names of characters who appear in the pregenerated station crew. If some of these people have been replaced by player characters, the referee should note those substitutions or read the material allowed filling in player character names as he goes.

As an alternative, the *referee* may choose to withhold Ice Sweep from the players and instead use the same material to build a little "mini-scenario" to lead into the adventure. In this case, some of the player characters will actually have a chance to experience the lead-in events firsthand, and can draw conclusions accordingly.

## THE RESCUE MISSION

The other way in which characters might be drawn into the adventure is by being summoned to answer a distress call from the *Andrew Carnegie*. In this case, it is assumed that the NPC crew of the station failed to understand and solve the mystery at the core of this adventure in time to prevent disaster. When the distress call comes in, the player characters are recruited by (if they do not already work for) Aberdeen Mineral Exploitation Company to take a cargo ship out to the endangered station and render assistance.

Characters receive a full briefing as presented in Distress Call. The referee should allow them to read that chapter directly, or can present it to them in his own way (particularly if he feels the need to inject or delete information that could change the group's understanding of what has been going on aboard the OMS). After this briefing is complete, they should be allowed to requisition and/or purchase new equipment to prepare for their mission.

**Requisitioning Equipment:** AMEC will gladly provide certain items of equipment to assist the characters in carrying out their rescue mission. Because the exact nature of the problem is not fully understood, a broad range of gear is available. However, Inferno is a comparative backwater planet and so not always able to furnish the kind of equipment characters might like.

If the characters do not have a starship of their own, a lone *Anjou*-class cargo ship currently orbiting Inferno is available for the group to use to reach the station. Ship's crewmembers are available as NPCs to provide skills the player characters lack, or PCs can replace crewmen. The vessel is owned and operated by AMEC, and so is company, rather than private property. If the characters already have a ship, it is the only one currently in the system, and is being hired with the characters as crew as the only possible way of helping the endangered station.

Equipment availability on Inferno is not necessarily the same

as elsewhere in human space. All equipment listed in the basic game is assigned an availability of Very Common (V), Common (C), Scarce (S), Rare (R), or Unavailable (U). Ratings are noted below. When no specific items are listed, all items have the listed availability. AMEC can automatically provide any piece of equipment assigned an availability of V or C. However, no more than one scooter per two members of the party is on hand, though additional scooters could be bought.

*Wilderness Survival Gear:* Compact Rations, Vacuum Suits, Hostile Environment Suits, Biomonitors: V. Others: U.

*Tools:* V.

*Sensors:* Remotely Piloted Drones: C. Others: U.

*Scientific Equipment:* Cameras, Sampling Kits: C. Others: U.

*Medical Equipment:* V.

*Communications:* C.

*Satellites:* U.

*Computers:* V.

*Weapons:* Sonic Stunners: C. Melee Weapons: S. Rifles, Surplus Weapons, Civilian Weapons, Shotguns, Handguns: R. All others: U.

*Vehicles:* R.

*Armor:* R.

*Items Described in this Module:* C.

**Purchasing Equipment:** Equipment not allowed according to the lists given above may still be available, but it is highly unlikely. The purchase of any piece of equipment is a task.

To purchase "V" equipment: Simple. Streetwise. 1 hour.

To purchase "C" equipment: Routine. Streetwise. 2 hours.

To purchase "S" equipment: Difficult. Streetwise. 5 hours.

To purchase "R" equipment: Formidable. Streetwise. 10 hours.

To purchase "U" equipment: Impossible. Streetwise. 20 hours.

Note that the achievement of a task allows the player to locate 1D10 items of the specific type requested. Purchase prices are increased by 2D10 percent unless the characters haggle for them. This is a task.

To haggle for merchandise: Routine. Bargaining. Instant.

*Referee's Note:* Each successful haggle reduces the asking price by 1 D6 percent. On the first failure, no further haggling is allowed.

Characters may also, of course, provide any equipment they may have brought with them from other adventures in an ongoing campaign.

**Adventure Start:** Once equipment purchase is completed, the adventurers may shuttle to their waiting ship and begin the mission.

**ICE SWEEP****FROM THE COMMUNICATIONS LOG OF CONTROL CENTER ALPHA, PORTES D'ENFER, INFERNO (NYOTEKUNDU I)****02974 INCOMING MESSAGE BREAKBREAKBREAK****MESSAGE BEGINS:**

**FROM:** Arthur Crichton, Station Supervisor  
DS/OMS 4 *Andrew Carnegie*

**TO:** Marianne Drake, Director of System Operations  
Aberdeen Mineral Exploitation Company  
Complex Annex 5  
Portes d'Enfer

**PERSONAL AND CONFIDENTIAL**

Mari:

Something really exciting has happened out here. I don't want to go into detail on an unsecured beam, but MacReedy and Lemieux made an interesting find during their ice sweep this morning. Krueger is going nuts down in the lab trying to analyze it. This may warrant an early supply run if you can find a bird to come out. We'll have details by the time one of your people can get here. Come yourself if you'd like—you'll find the trip worth the trouble, I think.

Sorry about the mystery, but this find's more than just another chunk of ice to keep the ESA boys happy. I don't know how much profit is in it for the company, but I know you'll want to keep a lid on it until we can get some expert opinions.

Give my best to Vince and the kids.

Art.

**MESSAGE ENDS.****FROM THE COMMUNICATIONS LOG OF DS/OMS 4 ANDREW CARNEGIE****11873 INCOMING MESSAGE BREAKBREAKBREAK****MESSAGE BEGINS:**

**FROM:** Marianne Drake, Director of System Operations  
Aberdeen Mineral Exploitation Company  
Complex Annex 5  
Portes d'Enfer

**TO:** Arthur Crichton, Station Supervisor  
DS/OMS 4 *Andrew Carnegie*

Art:

Sounds intriguing. I wish you could give some details, but since the thing with Dr. Morand I can understand how you feel about broadcasting your every move to the Outpost people.

We can't send a ship your way for at least a week. There isn't an AMEC freighter due in for several days at least, and short of

some major disaster I can't go outside the company and request transportation. But it sounds like your news will keep. If some Kafers show up on your scanners or the station looks like it'll fall into Cocito, then we'll talk about a special run out your way. At least you're ahead of quota and can spend as much time as you want studying your whatever-it-is!

I'll let you know if and when we get a ship in, and you keep me up to date on anything you do feel like broadcasting.

Vince says you owe him Lv50. The kids are getting edgy living like moles here in the complex, and I'm starting to agree with them. I'm really starting to miss the good old days on the *Henry Ford*. Want to swap jobs? I could do with a tour aboard an OMS, director's salary be damned!

All our love,

Mari

**MESSAGE ENDS.****FROM THE DIARY OF ANGUS MACREEDY, SPECIALIST (EVA), OMS 4 ANDREW CARNEGIE**

The new kid really made a splash today! I've been out here for three years and never gotten anything but a couple of cracked ribs and a case of the EVA Itch...that greenhorn isn't here a week, and he makes the catch of the century. Maybe they'll put it down on the history tapes as Lemieux and MacReedy, but truth is I didn't have much to do with it.

We were on an ice sweep, the usual dull routine with Her Ladyship playing at spit-and-polish and the kid acting like a 'bot with a short circuit in the main logic module—charging around in circles and running over anything in his way. Typical first-timer, thinking an ice sweep is glamorous! Of course Our Lady of Perpetual Discipline stuck him with me!

The sweep nailed two chunks and got them on course; it was the third one that got us the big prize. Lemieux and I were just finishing the last charges and about to jump back to the scooter when the dumb greenhorn started messing around. He wanted to use his packjets instead of just pushing off, and the bloody things jammed when he fired. The kid wasn't hurt, just scared, but I had to go after him. When I finally matched vectors with him, he'd managed to snag onto some kind of sack that was just drifting in among the rest of the ring junk. It looked like a weather balloon to me, and it sure didn't belong out there. We brought it back in with us so we could check it out.

That thing turned out to be about the weirdest souvenir I've ever brought back from a sweep in my life. The sack is about two meters in diameter, but not a sphere at all. Jim Rand described it as looking like a big skull, and that wasn't far from the truth. It has to be some kind of artifact, a synthetic fiber that isn't like anything any of us have heard of. And there were other things inside the sack, too—more of the same kind of material, some kind of dried-up old vine that looked like a wreath, and a body. A body! There wasn't much to it... it was all dried up and shriveled like a mummy, but the vacuum had preserved some of it, at least. Doc Krueger took it down to sick bay to analyze, but he says it's something totally new, a new alien life form! Later on he showed us a computer reconstruction, and it was shaped a little like that bag—kind of round, with a big body and all its limbs and sense organ clustered at one end. Doc says he thinks the sack was a spacesuit for the beastie. He's going to run some dating tests after Berghoffer hotwires some instruments for him.

A new alien race! It isn't every day you find evidence of a new

race with the know-how to reach space. And the kid and I get the credit for bringing it in! I wonder what the bonus is on that?

**FROM THE LOG OF DR. HANS KRUEGER, MEDICAL OFFICER, OMS 4 ANDREW CARNEGIE**

Analysis of specimen 1 suggests it to be a carbon based animal life form. Extreme age is indicated. Probable cause of death: decompression. Computer profile suggests specimen had an exceptionally large braincase, and was adapted to an extremely low-G environment. I believe this species to be an intelligent life form with a sophisticated technology, based on the evidence of the artifacts found with the specimen.

Analysis of specimen 2 has been postponed. The wreath-like object is evidently a plant-analog of unknown origin and properties. Lacking a trained botanical specialist, I have chosen to concentrate on the other specimen and leave this one for the company experts.

All artifacts have been turned over to the station supervisor for safekeeping. Recordings and initial computer scan results are in storage in the DISCOVERY file.

**FROM THE JOURNAL OF HERMANN BERGHOFFER, CHIEF ENGINEER, OMS 4 ANDREW CARNEGIE**

Five days now since they brought the thing aboard, and still it's the only thing any of them can think of. Krueger is still pushing me to modify some instruments to do Carbon-14 analysis and other scans he can't do now. It seems like everyone aboard is so wrapped up in all this alien stuff that they can't get any real work done. Had to reprimand Lemieux for coming on watch late yesterday after he dropped into sick bay to ask Krueger about his progress. Talk about incompetence!

Writing this at 0215 hours. Couldn't sleep again tonight. That same dream woke me up again—darkness all around, alone, falling...couldn't breathe. Felt so helpless. I don't know how many more nights like this I can take. Yesterday I was going to ask Krueger for his opinion, but he's so caught up in his specimens he probably wouldn't care. Maybe I'll talk with him tomorrow. Have to sleep to stay efficient. But always the damned dreams.

*DriveTech* has had an interesting article on Johanssen and Romanenko. If their work on manipulating Waverly-Damier projectors pans out, the applications are tremendous. A Bussard ramjet would even be possible. Not that we need Bussards now that we have stutterwarps, but it's still a fascinating thought. With a Bussard we could do things no stutterwarp ship can do now, like reach the galactic core. The core...! wonder what it's like? Wouldn't it be something to go there?

Maybe tomorrow I can finish the work for Krueger. Then I can have some time to myself. Does the library program have anything on the core? Since everyone else wants to take time off for the alien, I might as well catch up on some reading. Let them waste their energy on that dead thing. I can do better trying to help people who can still be saved!

## DISTRESS CALL

### TRANSCRIPT OF AMEC BRIEFING ON ANDREW CARNEGIE RESCUE MISSION

Present are Marianne Drake, Director of System Operations for Aberdeen Mineral Exploitation Company, plus members of the *Carnegie* Rescue Mission.

**Drake:** "You should know these proceedings are being recorded for our own files. Copies of the tape transcript will be made available if you so desire. This is a matter of extreme urgency, and although it is not exactly secret, I must ask that all of you agree to keep the matter confidential until such time as the company chooses to permit this matter to become public. By staying here, you are implying agreement with these terms." (Pause.) "Let the record show that all members of the mission have given their consent under those terms."

**Team Leader:** "What's with all the double-talk? We've all heard your station's in trouble. I hope you're not thinking you can keep that secret?"

**Drake:** "Let's just say that we'd prefer the exact nature of the situation on the station to stay hidden for the moment. AMEC has a lot at stake here on *Inferno*, and our contract with the ESA is already at risk thanks to some competitors who are trying to undercut our terms. We don't want anyone to find out the details of what's happened out there until we're sure the situation is under control. As a matter of fact, we're not entirely sure what has happened ourselves—the problem could be industrial espionage. If that turns out to be the case, then the less anyone knows, the less likely our opponents will be to take full advantage."

**Team Leader:** "So just what *do* you know?"

**Drake:** "Not much. The *Andrew Carnegie* is one of our older orbital mining stations; we've been operating the complex out there since the French colony started here on *Inferno*, and that's been well over a century. We maintain a minimum crew on board, since their only mining activity is to gather ice chunks for shipment here. Quota is easy to meet, and for the last week all mining has been shut down."

"On the last ice sweep before they stopped, someone on EVA duty made some kind of interesting discovery. We don't have any details; the station supervisor wouldn't breach company security to tell us anything the ESA might have picked up on. He's been careful that way ever since some bureaucrat forced him to turn over his medical officer to the French government for some warrant that's been on the books since God-knows-when—all because some routine personnel reports passed through the wrong hands on their way to me."

**Team Leader:** "So they made a discovery. You have no idea what?"

**Drake:** "The only thing suggestive about what we do know is that Dr. Krueger, the new medical officer, was in charge of examining it. Krueger is a first-rate doctor and a fair biologist, but outside his specialties he isn't very well-rounded. You don't expect a deep space mining complex to make discoveries a biologist might be interested in. But it could just be misdirection on Arthur's part."

**Team Leader:** "Arthur?"

**Drake:** "Sorry—Arthur Crichton's the station supervisor. If he had found some valuable mineral deposit, he might try to keep it under wraps until the company could take action, and this Krueger thing could be a decoy."

**Team Leader:** "Why not wait and tell you in person?"

**Drake:** "The station has a few scooters and short-range pods,

but no real ships of its own. We send out a supply ship every so often, but none is due for several months now. Arthur had to ask for a special ship to come out and review his find; we were getting ready to take care of the matter when the real trouble started."

**Team Leader:** "What happened?"

**Drake:** "Well, we don't know much about that, either. Station transmissions were lost three times in the space of one day; each time they came back on line we were told that they were having some kind of mechanical problems with a repair 'bot that was acting up and dismantling electronics. We didn't have any more trouble for a couple of days...then we got a fragment of a distress call. Even after computer enhancement, it doesn't tell us much. I have copies of all the pertinent messages. You may examine them on the trip out."

**Team Leader:** "And since the distress call?"

**Drake:** "Nothing. Not one message, not even a carrier wave. You people are the best equipped to take a look at the station and find out what's going on. We're spread thin out here unless we call on the outposts for help, and I'm reluctant to do that until I know more about what's going on—and what we might be protecting. The men are important, but, if they found something valuable, the company can't afford to go into a partnership with any of the ESA governments. We tried that back at the beginning, and the French hijacked our ideas and cut us out of the mineral rights here on *Inferno*. I don't plan to let that happen again."

"Your team has to get out to the station and find out what happened. Help out any survivors. Secure the information they may have left. If a saboteur is behind this, and I think that may be the case, find out who he's working for and bring him back alive if you can. And try to keep the station operational if there is any way at all—if that station goes down, our contract here is void, and AMEC is in trouble. You'll find our fees generous, especially if your mission succeeds."

"It's already been six hours since the distress call came in. Let's get the details settled as quickly as we can so there's no more time wasted."

### TRANSCRIPT OF FIRST MESSAGE REGARDING CARNEGIE DISCOVERY

#### 02974 INCOMING MESSAGE BREAKBREAKBREAK MESSAGE BEGINS:

**FROM:** Arthur Crichton, Station Supervisor  
DS/OMS 4 *Andrew Carnegie*

**TO:** Marianne Drake, Director of System Operations  
Aberdeen Mineral Exploitation Company  
Complex Annex 5  
Portes d'Enfer

### PERSONAL AND CONFIDENTIAL

Mari:

Something really exciting has happened out here. I don't want to go into detail on an unsecured beam, but MacReedy and Lemieux made an interesting find during their ice sweep this morning. Krueger is going nuts down in the lab trying to analyze it. This may warrant an early supply run if you can find a bird to come out. We'll have details by the time one of your people can get here. Come yourself if you'd like—you'll find the trip worth the trouble, I think.

Sorry about the mystery, but this find's more than just another

chunk of ice to keep the ESA boys happy. I don't know how much profit is in it for the company, but I know you'll want to keep a lid on it until we can get some expert opinions.

Give my best to Vince and the kids.

Art

**MESSAGE ENDS.**

**TRANSCRIPT OF DRAKE'S REPLY TO THE FIRST MESSAGE**

**11873 OUTGOING MESSAGE BREAKBREAKBREAK**

**MESSAGE BEGINS:**

**FROM:** Marianne Drake, Director of System Operations  
Aberdeen Mineral Exploitation Company  
Complex Annex 5  
Portes d'Enfer

**TO:** Arthur Crichton, Station Supervisor  
DS/OMS 4 *Andrew Carnegie*

Art:

Sounds intriguing. I wish you could give some details, but since the thing with Dr. Morand I can understand how you feel about broadcasting your every move to the Outpost people.

We can't send a ship your way for at least a week. There isn't an AMEC freighter due in for several days at least, and short of some major disaster I can't go outside the company and request transportation. But it sounds like your news will keep. If some Kafers show up on your scanners or the station looks like it'll fall into Cocito, then we'll talk about a special run out your way. At least you're ahead of quota and can spend as much time as you want studying your whatever-it-is!

I'll let you know if and when we get a ship in, and you keep me up to date on anything you *do feel* like broadcasting.

Vince says you owe him Lv50. The kids are getting edgy living like moles here in the complex, and I'm starting to agree with them. I'm really starting to miss the good old days on the *Henry Ford*. Want to swap jobs? I could do with a tour aboard an OMS, and director's salary be damned!

All our love,

Mari

**MESSAGE ENDS.**

**TRANSCRIPT OF FIRST MESSAGE REGARDING CARNEGIE COMMUNICATIONS PROBLEMS**

**04815 INCOMING MESSAGE BREAKBREAKBREAK MESSAGE BEGINS:**

**FROM:** Communications Watch Officer  
DS/OMS 4 *Andrew Carnegie*  
**TO:** Portes d'Enfer Ground Control

Inferno, this is *Carnegie*. Received your query. Sorry about the downtime; one of the communications antennas went offline unexpectedly. I'd file the usual reports, only we don't know what happened. A couple of components just turned up missing. Will keep you informed. Our regards to the gang at the Devil's Footstool

Bar and Grill! *Carnegie*, ending transmission.

**MESSAGE ENDS.**

**TRANSCRIPT OF SECOND MESSAGE REGARDING CARNEGIE COMMUNICATIONS PROBLEMS**

**04847 INCOMING MESSAGE BREAKBREAKBREAK MESSAGE BEGINS:**

**FROM:** Communications Watch Officer  
DS/OMS 4 *Andrew Carnegie*  
**TO:** Portes d'Enfer Ground Control

Ah, Inferno, that antenna's been acting up again. Please update us on messages for the last two hours; we haven't received anything since then. We've got four people checking the antenna array to find out what happened. Somebody's going to catch hell for this when we figure out who's responsible. Apologies and all that. *Carnegie*, standing by.

**MESSAGE ENDS.**

**TRANSCRIPT OF THIRD MESSAGE REGARDING CARNEGIE COMMUNICATIONS PROBLEMS.**

**04886 INCOMING MESSAGE BREAKBREAKBREAK MESSAGE BEGINS:**

**FROM:** Communications Watch Officer  
DS/OMS 4 *Andrew Carnegie*  
**TO:** Portes d'Enfer Ground Control

That last fade-out should really be the last, guys. We caught our saboteur. One of the maintenance 'bots must have blown a circuit and decided to spring clean the antenna array. We've turned the prisoner over to engineering for questioning. Sorry again for all the worry. Keep cool. *Carnegie*, ending transmission.

**MESSAGE ENDS.**

**DISTRESS CALL FROM OMS 4 ANDREW CARNEGIE**

**07103 INCOMING MESSAGE BREAKBREAKBREAK PRIORITY SIGNAL-MESSAGE BEGINS:**

**FROM:** *Andrew Carnegie*  
**TO:** Any Station

...tion, any station, this is OMS 4 *Andrew Carnegie...pan*. I say again: Pan...lost life support and primary electrical power. Six people...eight unaccounted for in hub and spoke sections. At 0817 hrs station...environmental systems outside the hub area ...ration. Specialists Lemieux and Ubara are attempting to bypass...Four hours life support left...in...assistance. Repeating...

**TRANSMISSION REPEATED FOUR TIMES BEFORE GOING OFF THE AIR PERMANENTLY.**

*Note:* Distress call transcript was analyzed by computer enhancement on all four repeats of message. Transmission quality of the distress call suggests a jury-rigged sender drawing on emergency power.

## REFEREE'S SYNOPSIS

*Echoes of the Past* is actually much more than just a single adventure situation. There is a primary plot line, of course, following the events that take place on board the *Andrew Carnegie* after an alien artifact causes one of the OMS crewmembers to suffer serious mental disturbances. But the exact presentation of this chain of events can vary greatly, or the referee can substitute alternate developments instead, giving the module a great deal of flexibility. Think of this booklet as a Sourcebook for several different scenarios rather than an individual adventure.

Some of the alternatives to the primary plot line are incorporated in the Suggestions for the Referee later in this book. The sections that follow outline the overall course of events in the adventure from two different viewpoints. The first places the adventurers among the crew of the OMS at the outset of the situation. It is primarily a mystery scenario that escalates into a struggle for survival as the unsuspecting crew is brought face to face with the menace they have accidentally awakened. The second plot line is a more straightforward adventure that emphasizes heroic action as the party attempts to rescue the station from the disastrous consequences of their initial encounter. The material that follows should serve as a guide from which the referee can develop the actual course of events in either plot line, using the common background presented elsewhere in the module for detail and depth. Of course, the adventure may not precisely follow the synopsis given here, since players tend to go their own way. But the synopsis information should (together with the supporting elements of the booklet) be enough to allow the referee to improvise in any situations not specifically covered here.

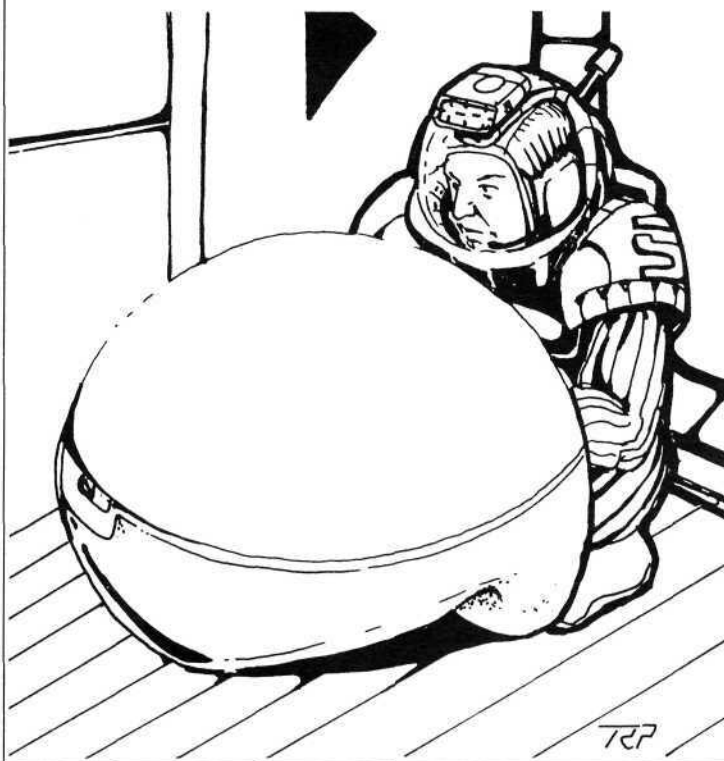
## A MYSTERY UNFOLDS

*Art looked worried as he finished his speech, and with good reason. I could see his eyes wandering around the room; it made him look like a wounded animal trapped between a band of hunters and a forest fire. We all knew what he was going through...we all knew, as he did, that one of the people right there in the lounge, someone we had worked with and lived with for weeks or even months, was a murderer. And there wasn't much hope of escape on a mining station in deep space if the killer decided to strike.*

As crewmembers aboard the OMS *Andrew Carnegie*, the characters witness or participate in the events described in *Ice Sweep* in the *Situation* chapter. During an otherwise routine EVA, one of the crewmembers accidentally discovers a sack-like artifact drifting in orbit around Cocito. Intrigued by this strange find, the crew brings it aboard for closer examination.

The sack is actually a survival bubble launched from an alien ship which encountered trouble in this area of space over a million years ago. A lone alien, a scout on a mission vital to the survival of its race, escaped in the bubble; however, it was far from the normal space lanes travelled by its people and unable to contact them. The being perished in the life bubble—but even in death tried to complete the mission that had driven it in life. It knew that it would die, so it left behind a record of a discovery it had made that could save its race from certain disaster. That record still existed inside the life bubble, together with the remains of its creator and a handful of other artifacts.

But this record is not something a human would recognize as a message; the aliens were a telepathic species which achieved a great deal through their symbiotic relationships with other animal and plant forms from their world. The creature recorded its final message in a highly specialized "notebook"—a plant capable of



receiving and later re-broadcasting telepathic impressions, emotions, and messages. The plant can pass on these impressions to its seedlings, and, like exceptional varieties of earthly vegetation, those seeds can germinate in the presence of sufficient air and moisture even after the passage of eons. After the artifacts are taken aboard the OMS and exposed to the station atmosphere, seeds stir to life once again and the "notebook" plant slowly comes to life.

As it grows, the plant performs its programmed function: it begins to broadcast the alien's final, desperate message. Any sufficiently intelligent mind can receive this telepathic communication, and it has a disturbing effect on crewmembers aboard the *Andrew Carnegie*. But the alien race was far more intelligent than humanity; picking up the message in a normal human brain is like operating a 40 watt light bulb off of a 500 megawatt generator. Most of the power is simply lost; what is received is overwhelming. As the plant grows, station members are affected by the message to varying degrees. The message makes the most vivid impressions in the minds of those characters with the highest intelligence; those people will experience unsettling dreams and extreme confusion. Individuals of average intelligence may also have disturbing nightmares, but these will be less vivid and frequently will be forgotten upon awakening. Lower intelligence levels may experience no more than a vague unease that they cannot put their fingers on.

But the character with the highest intelligence and the lowest level of determination on board the station will suffer more severe effects as the plant grows. This will probably be Chief Engineer Berghoffer (unless the referee specifically decides to allow a player character to have a suitable combination of attributes—see the Suggestions for the Referee). This one person is focused on by the plant for the delivery of the full message. Little more than a log entry made by the long-dead alien, the message becomes an overriding command in Berghoffer's mind. It overpowers his own will entirely and sets off a chain of events that could be disastrous for his crewmates.

Under the influence of the alien message, Berghoffer begins to suffer from an increasing breakdown of his whole personality. At first this is entirely on a subconscious level; the engineer grows increasingly remote from his comrades, is disturbed by dreams

that make it almost impossible to sleep, and finds his mind turning more and more often to a single problem—devising a way to reach the core of the galaxy. For this journey was the essence of the alien's last message: an imperative desire to reach its homeworld near the core to transmit the information it had discovered before death. The information itself was largely lost in the translation to a human mind, but not the critical imperative. Berghoffer finds himself growing gradually more obsessed by the thought of the core. Human technology cannot design a stutter-warp ship that can travel there, but, as a brilliant theoretical engineer, Berghoffer, stimulated further by the message, realizes that he could design a sublight ship that could carry a man to the core in about 33,000 years—at relativistic speeds that would make it seem like less than 30 for its passenger. The gradual growth of the message's influence makes Berghoffer work on the problem at first as no more than a simple exercise in theory, with little regard for the obvious impracticabilities of the journey. In his aloof mood, he shares nothing of his interest with the others, nor does he confide the disturbing nature of his thoughts and dreams to anyone else. And the crew, at first, disregards Berghoffer's abstraction. He has never been particularly sociable, and it is hard to detect any obvious change in his personality at this juncture.

But this changes over the course of time. As the engineer grows increasingly fatigued from lack of sleep, the message gains a stronger foothold in his mind. He begins to suffer the symptoms of schizophrenia: he hears "voices" in his mind urging him to act on his obsessions. And at night, while he tries to sleep, the relaxation of his guard paves the way for him to lose complete control and begin obeying those commands. During this phase he remains fairly normal much of the time and is unaware of his own nocturnal activities. But under the alien spell he begins to put his theories on reaching the core to work. He begins to take action to turn the *Andrew Carnegie* into a giant Bussard ramjet capable of making the long journey to the core.

The crew becomes aware that something is terribly wrong when they discover that important systems have been vandalized for parts. These sporadic acts of sabotage appear to have no real motivation, and even Berghoffer is baffled by them when he is in possession of his own faculties. He even participates whole-heartedly in efforts mounted to track down the people responsible for damaging "his" machinery. But, under the alien influence, he continues to do these same acts of sabotage, using the station computer and robotics networks to carry out his work. Finally he is discovered, caught in the act by one of his junior engineers, and this interference with his overriding purpose causes Berghoffer to kill the man without a second thought. The discovery of the body turns the mystery from sabotage to murder and puts the crew on guard. Again, even Berghoffer doesn't know the truth.

By this time, though, the engineer is becoming less and less capable of holding his own in the struggle to retain control of his own mind and personality. As his deterioration continues, his periods of rationality grow shorter and fewer. And, although his primary goal continues to be the conversion of the station to Bussard ramjet configuration, Berghoffer's alter ego is moved to take action against crewmembers who threaten the achievement of that goal. Using his vast knowledge of station engineering and his superior skills in shipboard, computer, and robotics systems, the mad engineer will do his best to eliminate all threats. Luckily for the crew, his unstable condition makes it hard for Berghoffer to concentrate on any task beyond the conversion work for very long, so his attacks on them are usually limited in nature and follow specific provocations. He is largely unable to think ahead or to focus on their destruction as the only way to clear the path for

his own ends.

Obviously, the adventurers have several aims. First and foremost, they need to survive, and to do that they must first discover just what is happening. The adventure therefore begins as a mystery, as they endeavor to learn the identity of the saboteur/killer among them. Once they have learned this, they will be faced with the danger posed by the madman's single-minded attempts to take over the station. An ideal solution to the adventure would be to capture and hold Berghoffer while saving the station from any harm, but if the player characters can't stop him any other way, they may be forced to kill him. Escape from the station is a route to a viable personal "victory," but "misplacing" an expensive OMS and costing AMEC the lucrative Inferno contracts is not the best way to win friends and influence people. Another semi-successful conclusion to the adventure would be either to save the station or at least to get off a message to AMEC explaining the nature of the situation at the cost of the lives of the characters aboard. In the latter case AMEC could still try to mount a new attempt to stop Berghoffer, which is the core around which the alternate version of the adventure is built.

If the referee so desires, the adventurers may be allowed to receive assistance from Inferno if they can first get a message out describing their plight. In this case the Rescue Mission that is mounted is staffed by NPCs (and new player characters can be generated to accommodate any player whose character has had the misfortune of dying in the course of previous encounters) who bring extra equipment, weapons, and skills to reinforce the group. However, the rescue mission will probably meet with misfortune early on to cut down the number of extra NPCs available to aid the adventurers. It is intended that the player group be forced to solve their own problems when possible; rescue team members are cannon fodder more important for the supplies they carry than for any direct assistance they can provide.

## TO SAVE THE STATION

*Our first close-up sight of the OMS was chilling; the sleek needle shape we had seen from afar had resolved itself into a scarred veteran of a deadly, desperate little war. The spindle had stopped spinning, and we could see gaping hatches where emergency bolts had been blown to decompress the interior. One of the ring modules was punctured in four places—energy weapons damage coming from the inside, or so Sgt. Deladier claimed. He was our military expert, so I guess he knew what he was talking about. But the worst sight of all, to my way of thinking, was the little cluster of repair 'bots crawling along the outside of the main spoke. They were calmly scavenging parts with laser torches and mechanical cutters from antennas and sensors and dozens of other things they shouldn't have been touching. It was like some outdated s-f plot come alive, with the machines taking over for their own purposes. We knew that couldn't be happening—someone on board that station had programmed them to strip those parts, and odds were that same someone was the one we were here to find and stop.*

In this version of the adventure, the player characters are called in by AMEC to investigate when the *Andrew Carnegie* stops responding to messages from Inferno. As a band of troubleshooters who happen to be on the spot at the time, the adventurers are allowed to mount a rescue operation with far more in the way of resources than is available to the crew. However, they do not start out with a great deal of information on what is going on, so there is no way they can be sure what to expect—or what they'll need to take with them. Also, time is short and any delay in the launching of the mission could be critical.

The backdrop to the adventure is much the same as before. Berghoffer, the chief engineer, has succumbed to the overwhelming power of the telepathic message passed on by the plant. In his quest to convert the OMS into a viable Bussard ramjet to reach the core, he has found it necessary to take steps against the crew, but not before they were able to get off a fragmented cry for help. The adventurers must board the station, try to aid any survivors, and stop Berghoffer. The various other alternative solutions to the adventure are the same as for the other previously detailed version. This situation is both easier and harder than the first; it is easier because the characters are better equipped and expecting trouble, but harder because the dangers they face are fully developed and there is no chance of nipping the problem in the bud before Berghoffer gains total control over the station.

## REFeree REFERENCES

The synopsis provided in this chapter can be considered an overview to the events which will transpire over the course of the adventure. Several other sections of this module go into more detail about specific aspects the referee will need to know about in order to develop the scenario fully.

*Player Dossiers* and *Referee Dossiers* give full descriptions of the important NPCs on board (including stats and skills), plus general background information. Also included there are descriptions of special skills and new careers which have a bearing on the creation of characters for *Echoes of the Past*. A section describing new Equipment is also included for the referee's use; this equipment (including the various station robots) can also be carried over for use in other **Traveller: 2300** adventures.

The Engineer describes more fully just what Berghoffer is likely to do at any given time and outlines more fully his behavior, goals, and objectives while under the influence of the alien message. This material is crucial as referee background to presenting the situation and then resolving the interaction between the players and their opponent.

Onboard Systems, in the chapter on the *Andrew Carnegie*, contains information on technical aspects of the struggle for the *Andrew Carnegie*. It outlines some of the various options that might be explored by the players (or by Berghoffer) for taking control of the station. Especially important here are discussions of the specific tasks that might arise. Referees can model other tasks on these if they or their groups want to explore possibilities not covered in this material.

In The Rescue Team the referee is given information on how to assemble and bring in the rescue party that can arrive to aid the station crew. Whether the rescue team is composed of player characters or nothing but NPCs, this section is particularly important in spelling out how the mission is organized and equipped, how it can be activated, and what it can expect to encounter when it reaches the OMS.

Adventure Guidelines contains various incidental points which may become important to the resolution of the adventure. Among these guidelines is information on how the referee can effectively incorporate NPCs into the adventure and some general hints on structuring the sequence of events into an effective plot line.

Suggestions for the Referee is a special section which outlines some interesting alternative scenario situations the referee may wish to explore. Among these are variant adventures that do not use the alien message (such as ordinary industrial espionage or a battle for a different OMS out on the Kafer frontier), and a means for linking the two versions of the adventure together. This section also explores the possibility of making a player character be the person overcome by the alien message, which makes the in-

teraction between the crew and their mad opponent much more challenging and interesting.

The Alien is a discussion of the discovery that starts the whole situation—the remains of the alien and the artifacts (one of them living) that were found with it. Much of this information may never be passed on to the players, since it deals with things that happened in the distant past. However, the referee can use this section to gain extra insight into the overall nature of the problem that confronts the players, and the material contains guidelines that may be important in determining just what the players can learn and how.

Finally, there is a description of the Dream Sequence experienced by crewmembers exposed to the plant. This can either be treated as a handout or used by the referee as a source of colorful descriptions in his own narration.

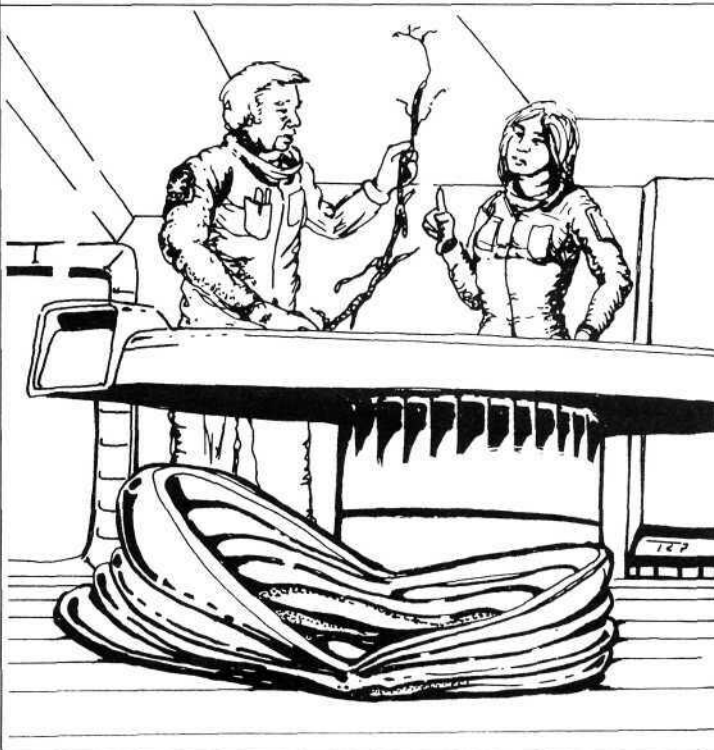
## NEW SKILLS

Certain new skills are introduced in this module for use by characters engaged in deep-space mining. They are briefly outlined below, and may be added to the skills available normally through careers in the basic rules or in other **Traveller: 2300** adventures and/or supplements.

**Environmental Engineer:** The character is familiar with the techniques by which life support systems are set up, operated, and maintained. This can be considered an additional Space Crew skill. It may also be considered a related skill for Colonists.

**Local Knowledge:** The character is familiar with the conditions on a particular world. This skill indicates a knowledge of a planet's geography, society, politics, and special problems or hazards that might be encountered there. As such, it can be used for tasks relating to Survival and Streetwise skills on the world in question, and to allow the character a grounding in local history and society. Each world must have Local Knowledge developed and listed separately. The skill may be taken as an additional Background skill (for the character's homeworld only), or as a General skill during a character's career.

**Mining:** Mining is the natural adjunct to Prospecting. The former is used to seek out resource deposits and process small



quantities to establish the value of a given find. Mining skill, on the other hand, covers the work of full-scale resource exploitation. It deals with the problems of drilling, tunneling, and otherwise extracting material in quantity from a given site. The skill confers familiarity with such items of equipment as mining lasers and conventional drilling rigs. It is considered an additional general skill, like Prospecting.

**Robotics:** Robots, like computers, are common in the early years of the 24th century, and it takes no special skill to undertake the routine operation and basic programming of robot units. Robotics skill comes into play when it is necessary to create unusual programs, make major modifications to robot operating capabilities or parameters, or to study and understand robots of alien origin. Robotics skill is available as an alternative to Computer skill in any situation where the latter is available.

**Scooter Pilot:** Scooters are small open-frame sleds used to carry small numbers of people on EVA operations. They lack all but the simplest controls, doing without sensors, computers, life support, and other frills. A scooter pilot is expected to match vectors and carry out other maneuvers very much "by the seat of the pants" in a variety of difficult conditions. This is considered to be an additional Space Crew skill.

**Zero-G:** The character is trained to handle himself in weightless conditions. Rules and tasks governing zero-G operations are given elsewhere in this module. It is considered an additional ship crew skill.

## NEW CAREERS

All of the new careers introduced here are considered to be Government and Civilian Careers, as found in the *Player's Manual*.

**Belt Miner:** Belt miners are trained in the discovery of resources in deep space, usually in an asteroid belt, a gas giant ring system, or the Trojan points of a large, high-G planet. They may be in the employ of a large company (such as AMEC, in this adventure), or they may be independents who prospect in hopes of making a big strike and setting themselves up for life. It is a rugged life, and it takes a self-reliant, determined individual to carve a niche for himself in this dangerous line of work.

**Initial Training:** Vacc Suit-2, Zero-G-2, Prospecting-3, Scooter Pilot-1, Demolitions-1, Mining-1.

**Primary Skills:** All Space Crew skills, all General skills, Geology, Forward Observer, Leader, Scooter Pilot, Demolitions.

**Related Skills:** Melee, Computer, Streetwise, Bureaucracy, Appraisal.

**Prospector:** Where the belt miner works in space, the prospector searches out and extracts minerals from the surface of planets. Although not as dangerous as belt mining, the *career* is one that is full of uncertainty and risk. Prospectors need to be familiar with mining techniques and the principles of long-term operations in a potentially hostile environment.

**Initial Training:** Prospecting-3, Mining-2, Demolitions-2, Survival-1, Ground Vehicle-1.

**Primary Skills:** All General skills, Geology, Forward Observer, Hover Vehicle, Ground Vehicle, Local Knowledge, Demolitions, Survival.

**Related Skills:** Melee, Computer, Streetwise, Bureaucracy, Leader, Appraisal.

**Technician:** Technical personnel are heavily trained in one or two areas of expertise, with some related training in other areas. The station crewmembers aboard the *Andrew Carnegie* are considered to be technicians first and foremost. In other settings, the technician can be found in the employment of government or business, as a specialist aboard a starship, or in a wide variety of

other settings. Though not necessarily glamorous, the technician is an indispensable part of life in a high-tech society.

**Initial Skills:** Computer-3, Electronic-2, Mechanical-2, Theoretical Sciences-2.

**Primary Skills:** One Specialty skill (below), Information Gathering, Engineering, Computer, Electronic, Mechanical, Robotics.

**Related Skills:** All Ship Crew skills.

**Note:** The primary skill representing the character's technical specialty may be any of the skills that follow: any Journalistic skill, any Space Crew skill, Theoretical Sciences, Medical. Only one skill can be chosen as a Specialty skill; once chosen, characters may not acquire any other eligible skill as a Specialty unless they change careers and re-enter a different Technical *career*.

## THE ENGINEER

*Berghoffer looked pale, worn down by fatigue and pressure. His eyes were the worst, deep-sunk, haunted, and staring out with a look of fanaticism that seemed hardly able to register what was going on outside the engineer's private world. He didn't seem much like the man we'd come to know in those long months of duty together...but behind those eyes and the sallow, clammy skin was the same brilliant mind. Even insane, Hermann Berghoffer could probably out-think the lot of us. I signalled to Jaeger and started to close in. This time we couldn't let him get away!*

In most versions of this adventure, the situation will be built around the deteriorating sanity of a member of the OMS crew and his efforts, nurtured by delusion and obsession, to take the station for his own purposes. Though it is possible for one of the players to portray the afflicted character (as discussed in Suggestions for the Referee) an NPC opponent is most often used. Hermann Berghoffer, the chief engineer, is intended to play this part. However, the referee can feel free to substitute some other character, provided he follows certain key guidelines.

The afflicted character will always be the individual of the highest intelligence on board. If two or more characters have the same high intelligence, the lowest Determination is the indicator. Tied Determination scores can be settled in any manner the referee wishes. For obvious reasons, the character who goes insane should be a member of the station's engineering department, since an engineer will pose the greatest threat to the others. However, a referee might choose to build a different direction into the scenario by choosing a computer expert (who can program station computers to carry out whatever modifications are necessary) or even a pilot, who wouldn't be trying to take over the station, but rather a ship—although no stutterwarp ship in human space has the ability to reach the galactic core within a normal human life-span (if at all). The referee should always feel free to make such modifications in the overall thrust of the adventure, particularly when there is a danger that some of the players may be familiar with the contents of this module.

## BERGHOFFER

Prior to the discovery of the alien life bubble in Cocito's rings, Hermann Berghoffer was a perfectly ordinary, if somewhat reclusive, individual. He had never displayed any signs of mental or emotional disorders, although he had trouble interacting with other members of the crew in a social fashion. Because of his reputation as an engineering genius, his awkwardness in dealing with his shipmates was accepted with amused tolerance. Berghoffer was too shy and reserved to be ill-tempered, and rarely attempted to impose his will on others; his impatience with fools and poor workers usually expressed itself in all-night bouts of private work

on the engineering deck, often correcting the mistakes he found during the day.

The referee should be careful not to draw too much attention to Berghoffer, but at the same time (should questions arise) he can make it clear that Berghoffer has always been withdrawn, prone to late work in the engineering areas, and reluctant to join in the give and take of life in the station.

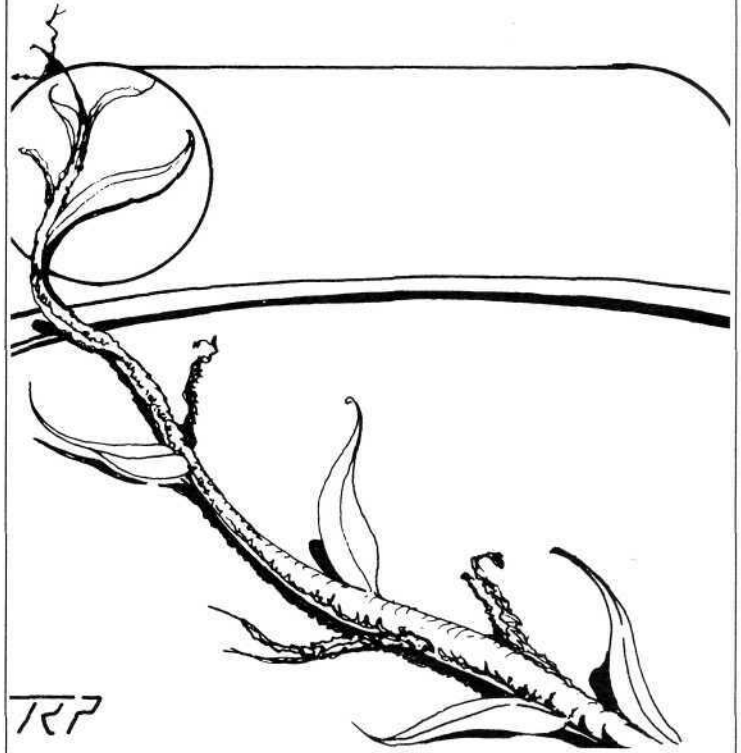
## DECLINE

From the time that the alien artifacts are brought aboard the station, Berghoffer will begin to suffer ill effects. These are slow to take hold and even slower to become plain, but they mark a steady decline in the engineer's ability to stay in touch with reality.

The initial period after the artifacts are brought on board lasts until the alien plant begins to show signs of growth (3-5 days; see *The Alien*). Berghoffer shows little enthusiasm for the discovery; characteristically, he feels that the others are wasting too much time on matters they are not qualified to investigate, but, equally characteristically, the engineer won't say anything. He merely remains aloof—as usual—from the bull sessions and the long periods the others spend examining their find. He tends to resist suggestions that he involve himself by modifying equipment for purposes of analysis. His view is that these things should be set aside for professionals to look into. All of this behavior is perfectly normal—for Hermann Berghoffer.

As the plant grows, Berghoffer, like the others, will be subject to a series of dreams, but he is not the sort to discuss them. In fact, he will vehemently deny experiencing any such dreams if questioned. This, too, is a normal reaction for the engineer. In point of fact, though, the dreams are particularly strong in their effect on Berghoffer's mind, and they will slowly but steadily build over several nights to the most vivid level possible. Unlike the others, Berghoffer experiences these dreams every time he tries to go to sleep and, in later stages, finds them too disturbing to allow him more than a few minutes of rest at any given time. Eventually he finds himself fearing the dreams so much that he won't even try to rest during off-duty hours, but instead begins marathon sessions of work in the engineering sections.

This period lasts for up to six days and is absolutely critical in the development of Berghoffer's deteriorating condition. It is during this time that the engineer first becomes interested in the galactic core, the root of an obsession that will lead to disaster aboard the *Andrew Carnegie*. He believes that the idea is a passing interest he has developed on his own, but in fact this idea is the imperative command of the alien "notebook" taking hold. A technical article discussing ways of using a crude scoop field (like the one the OMS uses to grab and load ice fragments into the hub) to make a Bussard ramjet workable is all the trigger Berghoffer needs to realize that the station might be modified to make the trip to the core at relativistic speeds. Though over 33,000 years might pass for humanity at large, Berghoffer knows that a man could live long enough to see the end of this long voyage. He will probably attempt to introduce the subject as a topic of conversation in an effort to get the others off of the alien artifact, but his discussion is so laced by technicalities that it goes over the heads of the rest of the crewmembers; let the players know only that Berghoffer continues to avoid talking about the discovery but seems unable to come up with anything more interesting than some article he read that claimed a practical slower-than-light starship could now be built to travel at very high velocities to points beyond the range of stutterwarp ships. The crew generally ignores this sally, with someone commenting that it wouldn't be long before there were breakthroughs that would let stutterwarp ships increase their range



and so get beyond the rifts and gaps currently blocking expansion in some directions. After this, Berghoffer stops talking about the matter. But the idea of reaching the core in a Bussard ramjet interests him still.

As a theoretical exercise it intrigues him, and in private he begins to apply his brilliant mind and technical knowledge to the purely theoretical concept of such a trip. But as time wears on and Berghoffer's lack of sleep saps his already weak will the message grows in importance and, with it, the subconscious need to put the ramjet modification scheme into actual operation.

After several days of minimal sleep the man's body simply can't function without rest. But the fatigue has also sapped Berghoffer's ability to resist the subtle power of the alien message, and now the engineer enters a new period of breakdown. For long periods of time he now succumbs to whispering "voices" inside his head, voices which encourage him to begin work modifying the station for ramjet travel to the core. These will keep him working for long hours until exhaustion forces him to sleep; on awakening, Berghoffer remembers almost nothing of what he has been doing under the influence of the message. Putting it down to fatigue, and unwilling to air his personal problems to the others, he continues to keep his situation secret. But his lucid periods are growing shorter with each passing day, and eventually something happens that changes the whole complexion of the situation—Berghoffer's activities are noticed, leading to tragedy.

## SABOTAGE AND MURDER

The changes Berghoffer makes to carry out his modification of the OMS are subtle at first, but eventually they become noticeable. Basically, he needs to divert large amounts of power and gear from "non-essential" systems such as communications, processing, and the linear accelerator to create the Bussard ramjet. This won't be noticed until the station attempts an ice sweep, attempts to launch material towards Inferno, or has communications service interrupted by the engineer's sabotage. The referee should schedule some such activity at some point after Berghoffer has begun working on the alterations to reveal the situation.

Berghoffer's work is being carried on entirely by station robots

controlled by computer programs fed into the master computer. These programs won't show up unless someone specifically goes looking for them and completes the proper task successfully. This and all other tasks relating to troubleshooting and/or modifying the station systems are covered in Onboard Systems. What is important at this point is that the referee should see to it that the trouble comes to light, but without revealing the exact nature of the problem. The first discovery will merely reveal that a system has broken down without warning. Examination will reveal that key parts from the system have been extracted and no more. Ordinary repairs will put the system right. Berghoffer, in one of his lucid moments, will be as interested in getting the repairs done as anyone else.

Systems will go down as the robots carry out their programs under Berghoffer's supervision. Once sabotage is suspected the characters should take action to watch for future acts; if the players don't think of it, Guiscard, the company troubleshooter, will. A robot will be detected in the process of removing the components, which will provide a partial explanation for events, but no real solution. Anyone capable of basic computer operations can instruct the computer to order robots to do anything. However, a check of the computer at this time will (with successful task completion) reveal that a large, complex program is running that is guiding a number of station robots on a widespread mission of system sabotage and reconstruction. (This may give clever players a route towards an early determination of who is responsible—if someone thinks to compare programming styles.)

The presence of a saboteur will be suspected by this point, but the culprit's identity should still be uncertain. Berghoffer remains cooperative when he is fresh and rested, though his "voices" may occasionally distract him even at the best of times. Still, given Berghoffer's reputation, no one is likely to be surprised if he doesn't always pay attention to his companions. But, just at this point, matters escalate when someone actually stumbles across Berghoffer when he is working on the modification program.

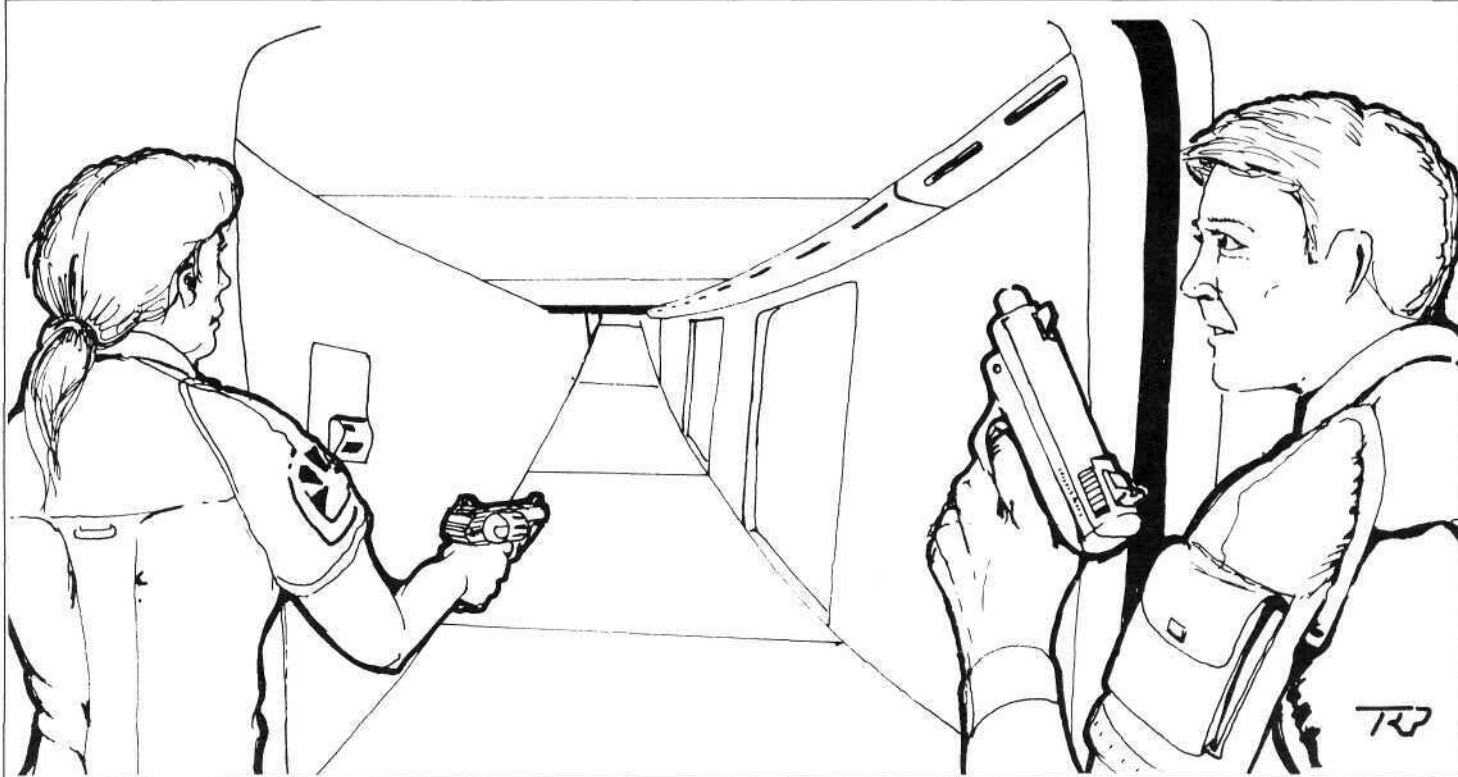
A specific NPC, Third Engineer Kingsford, is intended to be the first one to interrupt Berghoffer at his work. This expendable victim is killed for his efforts. If the referee doesn't have Kingsford

on the station or wants to choose a different victim, that's fine. A player character might even be the one to discover Berghoffer, but, if this is the case, either the suspense or the player character's life will be cut short rather abruptly. Assuming the person who discovers Berghoffer is killed by the engineer, the rest of the crew has a new set of problems to consider. Berghoffer himself has no memory of committing the murder (except perhaps for some troubled dreams later). Again he will cooperate in the hunt for the cause of the trouble on board, but by this time his mental deterioration is almost complete.

### FINAL BREAKDOWN

Following the murder, the group's efforts to track down the unknown troublemaker are likely to intensify, and Berghoffer's collapse hastens. As the characters protect the station, the engineer counters with his own protective measures. Soon Berghoffer is lost to the influence of the message. His final breakdown is heralded by his theft of the alien plant. (He needs to safeguard the message it contains in case he doesn't make it to the core; the semi-telepathic plant can modify its priorities to match the thoughts and reactions of the person it communicates with, and concern for the safety of the project in Berghoffer's mind breeds a desire to take extra precautions against failure). Berghoffer will seal himself into engineering to work on his project. As the need arises he will strike out at anything that threatens to stop him—including the crew. An engineer of Berghoffer's abilities poses a danger to the OMS.

Throughout this final period of Berghoffer's deterioration the engineer's obsession with modifying the station should play into the hands of the adventurers. Unable to concentrate for more than a short time on any task that doesn't directly relate to the modification program, the mad engineer reacts to immediate threats and occasionally makes short preemptive strikes on his own initiative, but he cannot really devote his efforts to a prolonged campaign against his enemies. This means that the group will not generally be threatened as long as they don't stir Berghoffer up by attacking him or his work. However, some of Berghoffer's modifications will themselves pose a threat, so referees can move the action



along as needed by having a crisis come out of nowhere. In most cases, it is left to the *referee* to set the adventure's overall tempo, giving the players some long breaks to consider their position and options but stepping in from time to time to keep them from getting complacent. Also, of course, Berghoffer has extensive control over the station computer/robotics facilities and could certainly program robots to engage in ongoing security activities or even a prolonged (but rather rigid) offensive.

In the final stages of the adventure, Berghoffer is tired out by his long vigil but the fatigue is offset by a sort of manic strength which makes him difficult to tackle right up to the end. If he is finally defeated, there is a strong chance that he will suffer a total nervous collapse that could be fatal. While this would still be a victory for the party, it is a much less satisfying win than one in which Berghoffer (an innocent victim himself, after all) is captured but rehabilitated. To keep him from suffering a crippling or even terminal collapse after capture, a task must be resolved.

To soothe Berghoffer after capture: Difficult. Psychology. 1 hour.

### WARNING SIGNS

Although it will be difficult for the group to detect the mental disturbances that plague Berghoffer (and, to a lesser extent, others on board), it is not impossible. The *referee* can allow characters a chance to notice strange behavior through the resolution of tasks.

There are five stages to the overall deterioration of people under the influence of the telepathic message. Only Berghoffer (or a different character substituted for him as the victim) goes through the third, fourth, and fifth stages. The referee should only resolve these detection tasks for characters if they are in a position to notice an afflicted character (the medical officer and the various department heads would be the usual people to notice things), or if a player specifically indicates that he wants to keep an eye on someone. The task is resolved in secret by the *referee*, who shouldn't reveal that a task is even being required. If the task is carried out successfully, the *referee* can consider the character in question to have noticed odd behavior on the part of the subject. A player should be informed of this; an NPC noticing something would report it to the medical officer, a department head, or the station administrator or might be inclined to discuss it with a confidante (one of the player characters) before taking the matter further. Odd behavior includes difficulty in sleeping, talking or yelling when asleep, periods of daydreaming, etc. Symptoms become more pronounced at later stages, so that Berghoffer eventually exhibits some pretty plain warning signs—such as his attempts to murder.

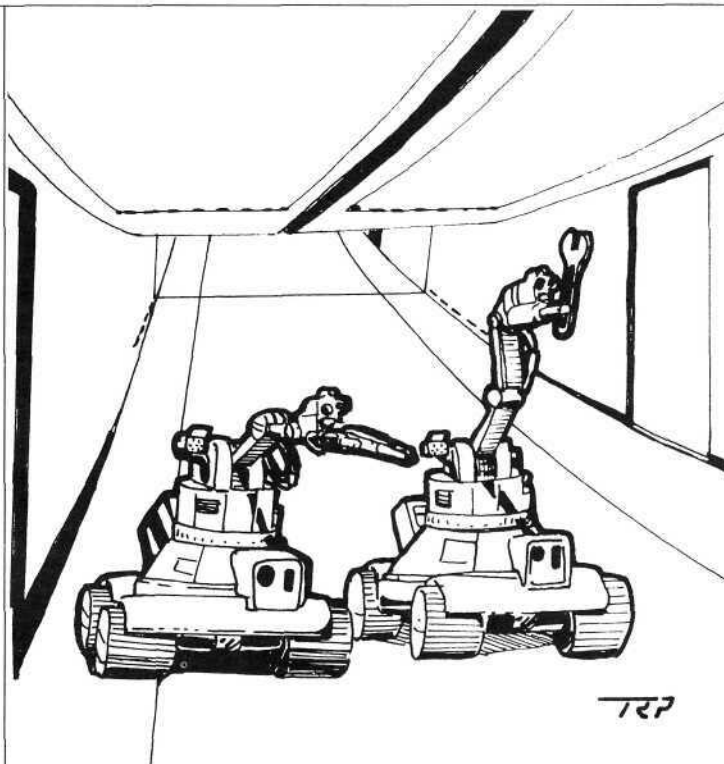
Keep in mind that, for the most part, everyone will suffer from first-stage effects, and many will move on to second-stage effects. This means that there will be plenty of red herrings to keep the issue uncertain for a while. But, if some of these early warning signs are detected, it is possible that they might lead the players to some interesting discoveries—such as the true identities of Suzanne Guiscard and Carlos Jiminez—through their attempts to monitor their comrades.

These are the tasks required for detection of unusual behavior:

To detect warning signs in the first stage of affliction: Impossible. Psychology. Instant.

To detect warning signs in the second stage of affliction: Formidable. Psychology. Instant.

To detect warning signs in the third stage of affliction: Difficult. Psychology. Instant.



To detect warning signs in the fourth stage of affliction: Routine. Psychology. Instant.

To detect warning signs in the fifth stage of affliction: Simple. Psychology. Instant.

In all cases a character should be able to detect disturbances to his or her *own* behavior patterns at two levels of difficulty lower than those described above. Unfortunately, by the time a character reaches the third stage it is no longer possible (unless the plant is destroyed) to fight the influence of the message even with the knowledge that there is something affecting the mind. Also, by the time the fourth stage is reached even the destruction of the plant does very little to curb the deterioration; by then the message has such an overwhelming grip on the mind that extensive psychiatric aid will be needed before the individual can function normally again.

### THE MODIFICATION PROGRAM

Berghoffer's modifications to the station need to be quite extensive to make the OMS capable of functioning as a Bussard ramjet. Among other things, he needs to convert the power plants to run on hydrogen scooped out of space while manipulating the tractor field generators and the linear accelerator to gather that gas in at one end of the station, siphon off what is needed for ship-board power, and excite the rest to provide reaction thrust aft. These primary modifications need to be supported by the elimination of a number of useless (to Berghoffer) systems that can provide circuitry and parts for his work. Of special use in the program are various electronic components found in the station's avionics, sensor, and communications subsystems. These, and the linear accelerator, will be the first areas to betray Berghoffer's work to the rest of the crew.

For the most part life support and other station systems will not be touched by the modification program since Berghoffer intends to live aboard for a period of several decades. However, some of his work may entail the shutdown of spin on the ring to permit robots access to hard to reach systems in zero-G; an unexpected

loss of gravity could have serious repercussions under some circumstances. Also, once Berghoffer becomes homicidal, he will be well aware of any number of ways to kill everyone on board by manipulating station life support while he himself suffers no more than a brief inconvenience. It is this possibility that poses the real threat to the characters.

Work on the station will take Berghoffer a period of 100 undisturbed hours. The referee should keep track of the passage of time once Berghoffer enters the third stage of his affliction. In that third stage he can get eight hours of work in on his modifications for every 24 that actually pass. In the fourth and fifth stages he gets in 18 hours of work each day—minus, of course, whatever time he must spend fighting the rest of the crew or contending with damage they cause in the modification program. The referee can determine this pretty much as he pleases; the object is to impose a time limit without making it completely impossible for the characters to react.

Once the modifications are finished, Berghoffer will have an additional 40 hours worth of final preparations and systems checks to make before repositioning the station to depart from the Nyotekundu system for the galactic core. At the end of this time (which is used up in the same manner as the time dealing with the modification program itself) the station will be moved into a new orbit which slingshots it around Cocito at high speed. The maneuver is dangerous, and a referee with a flair for the dramatic might make the climax of a long-running scenario come as the station is falling inward, with the crew having to overcome their opposition and take control before a critical course correction spells the difference between burning up in Cocito's atmosphere or swinging clear in a grazing orbit.

It should be noted that Berghoffer's modifications will be very difficult to decipher. Characters can attempt to resolve a task to understand what he is working on once they have studied the computer programs and/or the actual, physical alterations in the ship's systems.

To understand Berghoffer's plans: Impossible. Ship Drive Engineering. Ten Hours.

If characters have searched Berghoffer's cabin they will have discovered a recent issue of a technical journal which, among other things, outlines how Bussard ramjets may be possible through new applications of tractor field theory. A character who has found this journal and has either Ship Drive Engineering or Information Gathering skill at a level of 5+ can reduce the difficulty level of the task above to Formidable.

Clever players may be able to discover something of the engineer's plans by talking to him. Unless he is feeling actively threatened, Berghoffer won't necessarily try to kill anyone who comes near, and characters who approach him offering their aid could receive at least some guidelines as to his current obsession. However, Berghoffer becomes increasingly hard to talk to as time goes on, particularly in the face of multiple clashes with the group. Use a task to measure success or failure in establishing communications with him.

To parlay with Berghoffer: Simple. Psychology or Leader. Eloquence.

*Referee's Note:* Increase the difficulty by one when Berghoffer has reached stage four; increase it by another level in stage five, and by one level for each time the characters have been actively engaged in a fight with Berghoffer or his robots.

## THE RESCUE TEAM

*Lemieux swam towards us like some ungainly fish, moving awkwardly in zero-G. The gestures he was trying to make towards the forward viewport made his jerky movements even wilder; he looked like every comic spaceman in every holovid space sitcom ever filmed. But he didn't seem to notice how grotesque he looked: Ettiene was too excited.*

*"It's a ship!" He pointed again, and when we followed the gesture we could see it there too, decelerating slowly to match vectors with us. "They must have heard our message!" Lemieux went on, grinning. "Now we'll take care of that madman."*

*Crichton was frowning, though. He looked around the compartment at the handful of us who were left, then shook his head. "I just hope they're ready for all this," he muttered grimly.*

If the adventure is built around the crew of the OMS, the provision for sending in a rescue team composed of NPCs is built in to allow the referee to redress the odds in the group's favor during the course of play. A rescue team can bring warm bodies, and, more importantly, better equipment, so that a group's early failures can be made good. Introduction of the rescue team is strictly up to the referee; if the players are handling the situation unaided, there is no reason to bring in fresh blood.

It is also possible that the whole adventure will be built around the rescue team itself with players taking some of the characters that form the party. In this case the team's actions—and ultimate fate—will be quite different from what would happen to an NPC relief group.

## RESCUING THE PLAYERS

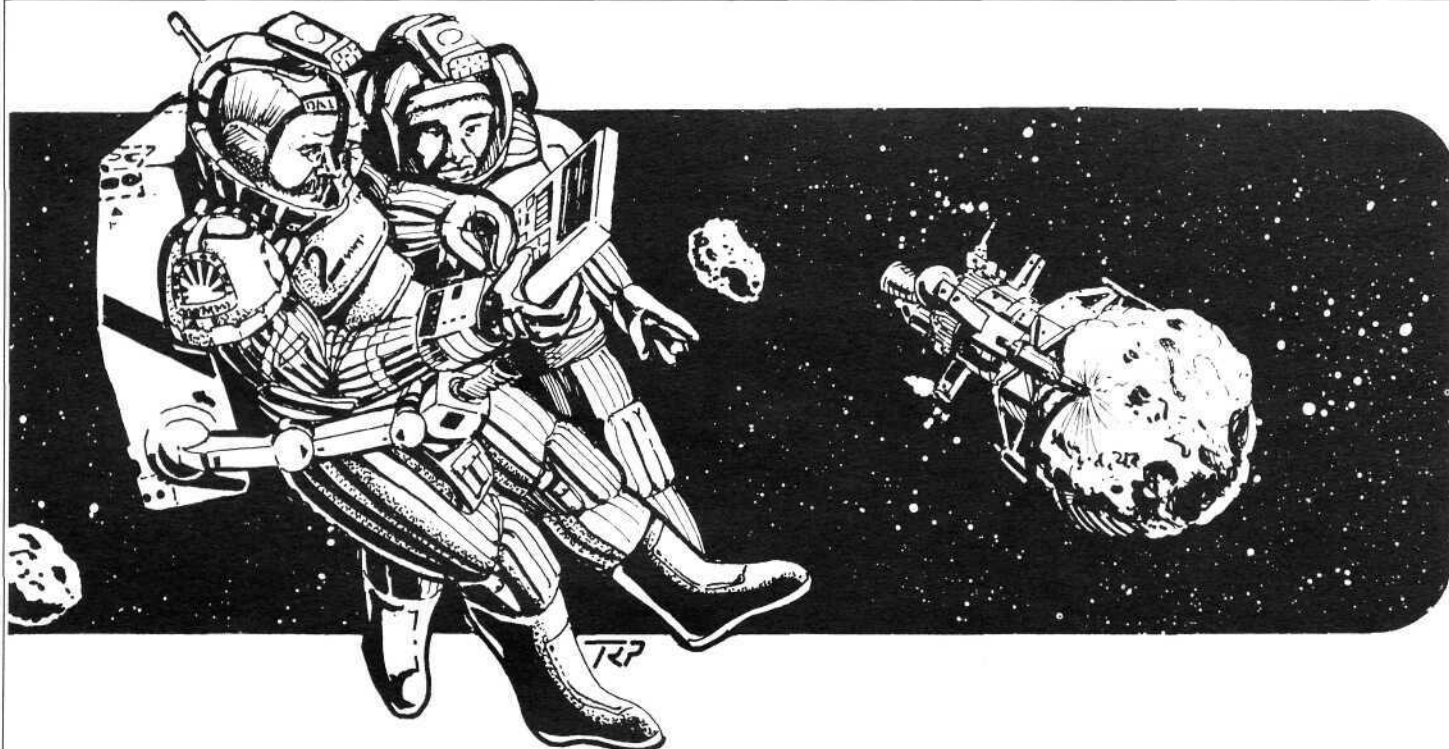
It is possible that players will back themselves into a corner by failing to react quickly enough to the events unfolding around them. If this happens, there is every chance that most of their NPC companions (and maybe a few player characters) will be killed fighting a losing battle against Berghoffer. Should this happen, it will be important to help the group out with some extra people and gear—but it is equally important that the rescue mission be placed in a position which keeps it from solving the whole problem without the help of the players.

If possible, the rescue mission should only be able to arrive if the adventurers can get out a message outlining their situation and asking for help. The referee can choose to have the mission come anyway (sent to investigate the loss of communications with Inferno), but it is better for the players to be able to accomplish something in the early stages of the adventure. Asking for help requires a working radio link to Inferno, of course; actually making the call is resolved as a task.

To call for assistance: Routine. Communications. 10 minutes. Uncertain.

*Referee's Note:* Increase the difficulty by one level if the equipment has ever been damaged prior to the call, and by another level if the call is made during combat or any other period of crisis. *Total truth* indicates that a detailed picture of the situation on the station gets through. *Partial truth* has the planetary station receive a garbled message that leaves AMEC in doubt about the nature of the crisis. *Total failure* indicates that the message did not get through, either because of damage to the station, or because of interference by stellar activity on the other end.

The rescue ship cannot arrive less than five hours after the call for help is sent out; it takes that long to receive and interpret the



message and organize the relief group. The actual time of arrival is  $3+2d10$  hours from the time of the broadcast. If the referee is just having the party arrive without being summoned it can arrive whenever he feels it should.

The rescue mission is brought in on an *Anjou-class* cargo ship, and consists of the crew of ten plus ten additional passengers. These are troubleshooters with a wide range of technical, medical, and paramilitary experience intended to handle almost any kind of trouble they might find on board. If the team has a full understanding of the situation they will be well armed, carrying an assortment of surplus combat longarms, lasers, sonic stunners, and two obsolete Guiscard Blindicide-3 rocket launchers for anti-robot combat and quick penetration of sealed bulkheads. They also have extensive medical facilities on board plus tools, spare parts, vacc suits, scooters, and any other equipment the referee wants to provide. If they were not fully informed of the situation, their armaments will be considerably lighter (sidearms, a few lasers, and not much else).

Unfortunately, a rescue mission under these circumstances is doomed to catastrophe. The referee cannot allow 20 NPCs to appear on the scene and start running the show; the player characters have to remain in charge. Even if the team is fully informed of the situation, their leader will prove to be too cocky and will lead most of his men straight into an ambush by Berghoffer's robots soon after they reach the station. A handful of men and *some* weapons and gear—whatever the referee feels is absolutely essential—will be all that reach the player characters. The ship also furnishes a convenient means of escape if the characters prove unable to defeat Berghoffer. However, the ship also furnishes an extra target for Berghoffer to pursue, since it contains components he could put to good use in the *Andrew Carnegie*. It also offers him an alternative objective; although stutterwarp ships are probably not capable of reaching the core, the engineer might be sufficiently confused, by the time the adventure begins to draw to a close, to consider hijacking the vessel and trying to use it to fulfill his mission anyway.

By staging the disaster that overwhelms the relief team, the referee can ensure that the players get some help without having the

newcomers take over completely. The arrival of the rescue party does allow those players who have lost characters from the original group to replace them and be in on the climax of the scenario. See also Suggestions for the Referee for some additional considerations in this area.

## PLAYER RESCUERS

When the player characters form a part of the rescue team, the main adventure revolves around their actions. The referee should begin play by deciding the nature of the situation on board the *Andrew Carnegie* at the time the call for help is first received at Portes d'Enfer on Inferno. Berghoffer should be about 50 hours into his modification program at this time, and several members of the station crew will be killed or wounded. The referee should determine the casualties among the station NPCs and decide where they have taken refuge, what weapons and equipment they have, and what they plan to do. Once all this is established, the referee will be able to coordinate events on the station with the actions and intentions of the players. They are given total control over how they respond to the call; keep track of the passage of time spent preparing and travelling, because this will be critically important in determining how much time they have left to overcome Berghoffer once they reach the station.

The referee should not stage a disaster for the rescue party when it arrives, when this version of the adventure is being played. Usually the group will have only the sketchiest knowledge of what they face (but see Suggestions for the Referee), and a trap sprung before they have a chance to size up events is simply not fair. Instead, allow them to reach the station unscathed, give them a chance to observe the current situation (robots scavenging critical parts, signs of battle, perhaps an encounter with 'bots under orders to attack humans, etc.), and then let them meet some or all of the original station survivors. How much the referee tells them about Berghoffer and his past actions is a matter of personal choice, depending on whether he wants them to solve a mystery or just have an action-filled adventure trying to blast through the robot guards and stop Berghoffer. The adventure from this point on will be quite open-ended.

## ADVENTURE GUIDELINES

*Echoes of the Past* is probably best played over several sessions. It can be made as simple or as complex as the *referee* desires; at one end, it is little more than an excuse to let the players shoot at robots while they try to stop a madman, while at the other it can be turned into a highly detailed adventure with numerous subplots among the NPCs (Marenkhovich's cowardice, Jaeger's stubborn heroics, Krueger's interest in fame above all else, etc.) and all the trappings of a murder mystery set in deep space. Just how the elements are brought together is up to the *referee*.

## RUNNING THE ADVENTURE

In presenting this adventure it is important that the *referee* pace it carefully. This is particularly important in the version revolving around the station crew. It should start slowly, with characters unaware of any danger threatening them. Let the players get a little bit bored in the first segment of the adventure. If they are uncertain as to where the adventure is leading or what they are supposed to do, that is all to the good.

Soon, though, it is time to escalate the tension. This is done first through the use of the dream sequences, which should be introduced with no real explanation to preserve the mystery of the situation. If possible, photocopies of individual segments of the dream sequence should be handed out to each individual player, then collected again after they have been read. (Permission is given to photocopy these segments for personal use.) A while later, pass out segments again, with eligible player characters receiving higher stages of the sequence as appropriate. How they react to this process is up to each individual.

## SUGGESTIONS FOR THE REFEREE

The material covered elsewhere in this module provides everything the *referee* needs to set up and run an interesting adventure scenario. There are, however, some additional ideas that might bear exploring. Some can be introduced as part of the standard adventure presented here, while other alternatives are actually ways of creating whole new adventures using some of the same background material included in this booklet.

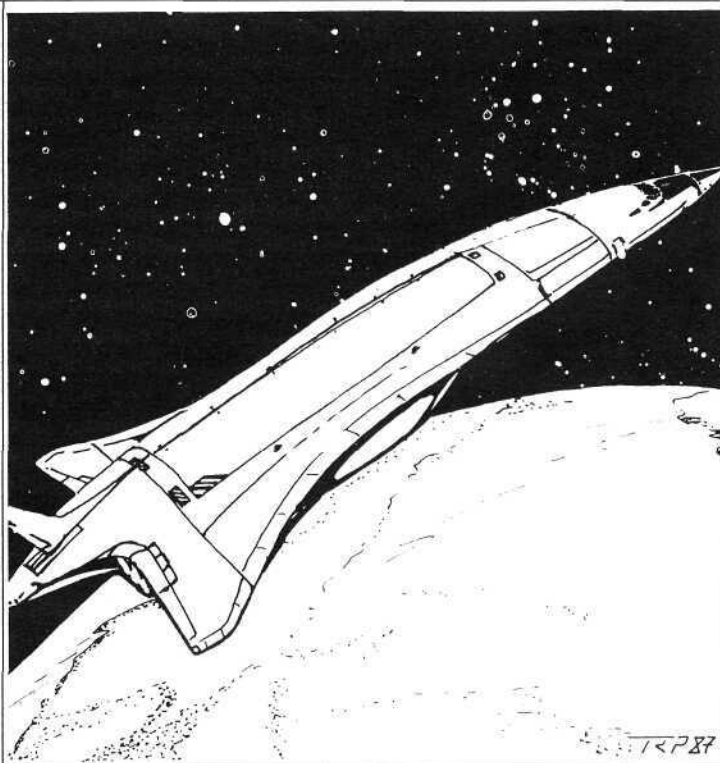
### Scenario Options

A few special options are available to make the basic scenarios more complex or intricate. Use them as you see fit.

**Using Jiminez:** Carlos Jiminez, a spy for a rival company, can be put to use in this adventure. Among other things, he can be a red herring, a troublemaker, or a coward who cannot be relied upon. As a matter of fact, because of Jiminez the crew won't be able to depend on the regular engineers to call on in the crisis: Berghoffer is the enemy; Kingsford is dead; and Jiminez is untrustworthy. But, the players won't know this until it is too late.

One of the best uses for Jiminez, though, is as a way to keep things interesting if the players are too lucky or too clever early in the adventure. If they catch on to Berghoffer and confine him before he has a chance to do any real damage, Jiminez can let him go again. After all, it is in his best interests to see the station rendered inoperative without tipping his own hand. Thus Jiminez gives the *referee* a chance to manipulate events against the players just as Guiscard can help them. Be even-handed in how Jiminez is used and give the group a chance to discover his duplicity before their plans are totally ruined. He is merely another way of moving the plot along, no more and no less.

**Competition:** One interesting alternative to explore is to have one of the players control Berghoffer (or some other character to be



overcome by the alien message). This option should only be undertaken by someone who is an exceptionally good role player and who is willing to enter into close cooperation with the referee both before and during the adventure. To make the adventure work the *referee* should explain the adventure to the player in advance, so that the player will be prepared to act as needed without a lot of revealing conferences. Another way to handle this (taking more *referee* preparation, but preserving more of a sense of spontaneity for the Berghoffer player) is for the *referee* to assemble a number of handouts in advance. Some, for the players, cover such things as the dream sequences and their routine findings in investigating the alien, looking for the saboteur, etc. The sheets given to the player controlling Berghoffer, though, contain descriptions of what that character should be feeling, thinking, and doing. Requiring everyone to pass requests for information and task resolution or descriptions of their planned actions will allow interaction with all the players on an ongoing basis, preserving the secret of who is the villain of the piece. The referee might want to do all of this even if a player isn't controlling the madman, simply because good players will realize that the possibility of player-controlled villains exists when notes are being passed back and forth among them all.

**Linked Adventure:** A final option to be considered in the play of the basic scenarios is to link the two basic versions of the adventure together. This is an alternative the *referee* should introduce if the players begin in the station crew and meet a catastrophic end before they can stop Berghoffer. Create an opportunity for the crewmembers to get out one good message to Inferno reporting what has happened; then allow the players to create new characters and be a part of the rescue team. This allows them to pick up the fight where they left off, better prepared and equipped than before. Obviously, under these circumstances the original characters must be pretty well out of action, and the rescue team should not blunder into a trap when it arrives.

### Further Adventures

It isn't necessary to run the adventure presented in this booklet. The background material here can be used in many other situations. The only limit is the creativity of the *referee*. The ideas below

should get you started.

**Saboteur:** Rather than focus an adventure around Berghoffer and his madness, an interesting scenario could be constructed out of the presence of the industrial spy, Jiminez. The alien artifacts can be eliminated entirely or relegated to the position of a red herring (by downgrading their effects—they still produce dreams and uncomfortable sensations in several of the crew, but no one moves into the third or later stages of the deterioration).

It is Jiminez who begins to sabotage the station, but not in the same way. His aim isn't to build a Bussard ramjet, but to cause the *Andrew Carnegie* to fail in AMEC's contractual obligations. His targets will be the sensor and control systems on the bridge, the linear accelerator, and the processing plants in the hub. However, players won't have any way of knowing the difference between sabotage caused by Jiminez and sabotage that would be caused by Berghoffer, so the basic thrust of the adventure, a mystery obscured by red herrings and uncertainties, goes on. If some of the players have learned about the main adventures in this booklet, this option is a great way to keep them guessing.

**Other Stations, Other Problems:** *Andrew Carnegie* isn't the only OMS in human space, and the background information provided here can be used to set adventures on any other station the referee cares to use. Other stations will have much larger crews, providing greater variety. The sorts of adventures that are possible are almost unlimited. Perhaps one OMS is mining a belt area along the Kafer frontier and is caught up in the war (see *Kafer Dawn* and other adventures dealing with the war with these implacable enemies of humanity). An OMS that stumbles on a more conventional sort of archaeological find, complete with rare metals and other valuables, could make another interesting backdrop for adventure. A station of this kind in a rich belt system might make a tempting prize for pirates or hijackers. Using these ideas, build further to get the best possible use out of this booklet. It has the potential for starting your players off on a long string of interesting adventures in the universe of **Traveller: 2300**.

**Campaigns:** Interested referees may wish to use *Echoes of the Past* as the starting point for an entire **Traveller: 2300** campaign revolving around the same group of characters. The module contains the seeds for several interesting options.

Both Marenkhovich and Dumouriez have reasons for returning to Aurore, their home world. The situation on Aurore is detailed in the adventure *Kafer Dawn* and in *Aurore Sourcebook*. These, in turn, can lead to other adventures set along the Kafer frontier.

A successful resolution of the adventure can lead to the chance for the group to become troubleshooters for AMEC. This will lead to involvement in many of AMEC's far flung interests, from other OMS encounters to adventures at planetary mining sites, asteroid colonies, and many other intriguing places.

Finally, players may want to try their luck at surface mining on Inferno. The background information provided in this module will help the referee set up some initial ideas of conditions and problems which can be fleshed out later as needed. Inferno holds out the potential for vast wealth, but only at the cost of unknown dangers from the planet's unearthly environment.

## THE ALIEN

*Stretched out on Krueger's examining table, our new visitor didn't look like much. You couldn't even describe it as a mummy; there wasn't enough left for that. It was just a dried-up sack of stiff, wrinkled, greyish-brown material that hardly looked like the remains of a living being.*

*But we all knew that this thing, some unknown number of millennia ago, had sailed the stars. The thought of this creature ex-*

*ploring space back when humankind was still making up its mind to come down out of the trees cloaked those pitiful remains in awe and respect.*

The players won't be able to discover a great deal about the alien or the race it sprang from in the course of the adventure. However, for the referee's benefit some background information is given here. How much of it the referee chooses to pass on later to the adventurers is up to him, depending on his own plans for the aliens and how much he feels later research is likely to bring out.

**The Medusae:** Named for their supposed resemblance to Terrestrial jellyfish, the Medusae are known to contemporary science only through the records and remains recovered from the *Andrew Carnegie*. This scanty information leaves more questions than answers, but some basic facts have been yielded through study by scientists from The Royal Society.

The Medusae were a radially symmetrical race of intelligent beings that flourished roughly two million years ago. Their subsequent fate remains unknown, but they certainly developed a civilization greatly in advance of 24th century Earth's. Their point of origin is somewhere in close to the galactic core, and they possessed stutterwarp-type ships capable of travelling those distances in a reasonable span of time. They would also seem to have made great strides in the fields of symbiosis, bio-genetic engineering, and related areas and would appear to have been telepathic.

The single example of a Medusae body is that found by the *Andrew Carnegie*. Although it was in a very poor state of preservation, computer models suggest that the creature (which may or may not have been typical of its race) was about 1.5 meters tall. The upper portion of the body was roughly spherical, about 1 meter in diameter, and apparently held the internal organs inside a cartilaginous sack of greyish-brown color. Additional cartilage-like material supported the organs and provided a sort of internal skeleton, but in strength and durability this body was far less rugged than higher Terrestrial life forms. The lower part of the body consisted of a cluster of ten limbs, apparently all interchangeable in function. At the point where these limbs joined the upper body, a rigid brain case with numerous sense organs springing in a 360 degree circle was found. Several openings, presumably for ingestion, respiration, elimination, and/or reproduction were all grouped on the underside of the body around the brain case. Very little is known about the arrangement and function of the creature's organs because the specimen was in such a poor state of preservation.

The overall appearance of the creature suggests a cross between a jellyfish and an outsized flea. It seems to be quite likely that the species evolved in low gravity or perhaps in a fluid medium; it is doubtful that the exoskeleton could support the creature in Earth-like gravity at all.

**The Artifacts:** Discovered with the Medusae specimen were a number of interesting items, but only a few have been identified with any degree of success.

**Survival Bubble:** A tough-skinned bag constructed out of a plastic-like compound unlike anything known to contemporary human science. The Medusae specimen was discovered inside this artifact, and its purpose was determined from supposition rather than definite knowledge. The bag had a semispherical shape, but with one end projecting out in an oblong box. The total effect is reminiscent of a human skull.

The spherical portion of the bubble was large enough, inflated, to comfortably accommodate the Medusae specimen, with enough room for limited movement. Several small containers were fastened

# The Medusa

## Braincase

Slightly smaller than that of a man.

Computer-enhanced reconstruction of skeletal remains found in the Nyotekundu system. Subject race is of unknown origin—this is the only find of its type in human space.

## Artificial Support

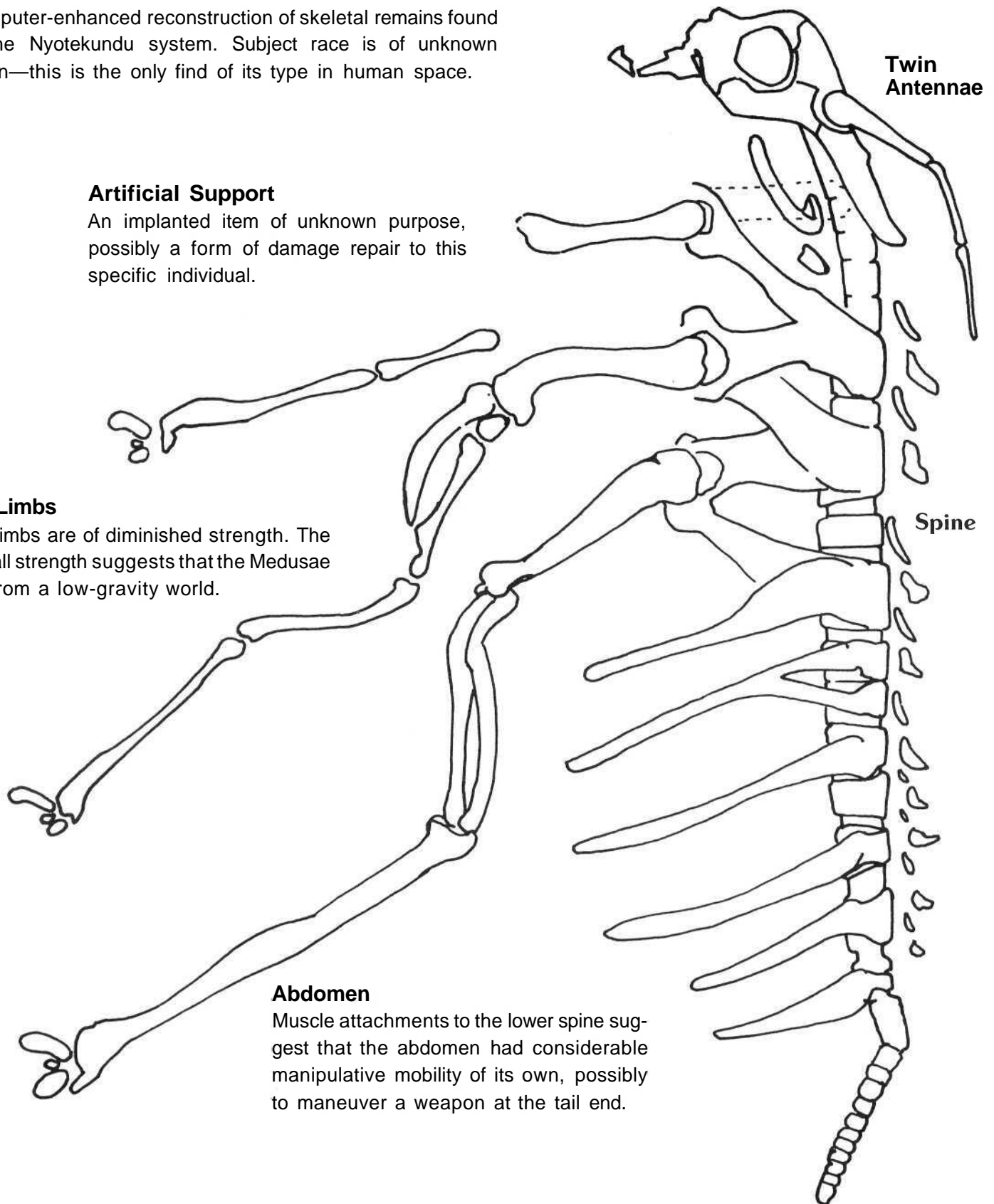
An implanted item of unknown purpose, possibly a form of damage repair to this specific individual.

## Six Limbs

Forelimbs are of diminished strength. The overall strength suggests that the Medusae are from a low-gravity world.

## Abdomen

Muscle attachments to the lower spine suggest that the abdomen had considerable manipulative mobility of its own, possibly to maneuver a weapon at the tail end.



at apparently random points on the inside of the bag. The squared-off section contained a round hatch large enough to pass the specimen and four small reaction thrusters clustered around the doorway and pointing in the same direction. Two of these thrusters had been used; the other two still contained fuel when the bubble was recovered. Evidently these jets were used to start and stop the bubble in space; attitude control was apparently carried out through brute force methods (crawling along the inside of the bubble and letting Newton's laws impart the desired spin).

Certain irregularities in the composition of the bag suggest that the substance may not have been an artificial plastic at all, but rather the cocoon-like secretion of some animal. Debate over this hypothesis promises to keep scientists shouting at one another for many years to come. If it is a cocoon shaped deliberately to the specifications of the Medusae, it seems likely that they have some sort of bioengineering-oriented or heavily symbiotic culture—a possibility heavily supported by the existence of their telepathic message plant. In point of fact, there was very little electrical or electronic gear on board the bubble, and no communications equipment of any kind. This in turn suggests that their telepathy operated over fairly long distances.

The skin of the survival bubble had been penetrated by shards of rock (or metal from the alien's original ship?) and depressurized. The site of the reserve air storage tanks had also been damaged, so no specimen of the Medusae's air supply was available for study. However, the fact that a Medusae plant was able to grow under Terrestrial conditions makes it likely that the aliens enjoyed an atmosphere essentially similar to our own.

*The Plant:* Perhaps the most intriguing artifact on the survival bubble was a spherical plastic container filled with a spongy substance. The container was pierced in several places, which freely admitted outside atmosphere and moisture. Upon being exposed to Terrestrial air for a period of several days, a fungoid growth formed on the other inner substance, becoming more widespread with each passing day. Totally independent of light or dark, this plant evidently used a form of chemosynthesis for the same basic ends; like Terran plants it absorbed carbon dioxide and water and gave off oxygen as a byproduct.

More interesting—and of greater importance to the adventure—is the plant's unique telepathic abilities. Scientists studying records of the incident cannot agree whether the plant was a product of genetic engineering or possessed a natural telepathic defense mechanism; in any event, the plant was capable of receiving and storing mental impressions that could be intensified and rebroadcast upon later encounters with mental activity. If it was a natural mechanism, it must have originated as a means of warning off various sorts of animals which might have attacked the plant. It even had the ability to store several different impressions, each keyed to a different kind of mental stimulus; moreover, it could pass these impressions and triggering mechanisms on through a dormant stage to a later growth.

The result was the perfect Medusae "notebook" for recording all sorts of memoranda for later telepathic playback. Unfortunately, the human mind is easily overwhelmed by the recorded signal strength; to those sensitive to the plant's signals and weak enough to give in to them, the result is a loss of conscious control and a deterioration of stability and sanity.

**For Want of a Nail...:** The humans who discover and later study the Medusae find will never have a chance to uncover the information that follows, but it is provided anyway to give the referee some insight into the backdrop that leads into *Echoes of the Past*. The referee may wish to go on to create other adventures that delve deeper into these revelations.

The aliens known to humanity as the Medusae had no spoken language as we know it; they were pure telepaths. Lacking speech, there are no easy referents that can be used in naming individuals or things. Most of their symbols tended to be highly descriptive rather than abstract so we must use approximations here.

The Medusae Race had conquered space at a time when mammals were nothing more than a promising new experiment in Terrestrial evolution. Spreading through much of the core of the galaxy, they built a large interstellar empire. Technology had reached a point where stutterwarp ships could and did reach the outer fringes of the spiral arms, and there were plans to develop a stutterwarp capable of reaching the *nearer* galaxies. Still, though they ranged over most of this galaxy, the Race could not claim to have explored it all, much less taken control over it. Scouts continued to seek out new worlds, new resources, and new races far and wide.

The Explorer was a scout. He lived when the Race lived at the brink of war with another star-faring species known only as the Enemy. A fiercely xenophobic and aggressive people, the Enemy was determined to fight the Race to the death rather than tolerate their expansion and prosperity. The war wasn't one of political or economic rivalries but of sheer, unadulterated hatred. For the Explorer, investigating distant planets away from the sporadic fighting was a pleasure, but the threat of war dictated imperatives and new considerations effecting the way he explored new worlds. The need for tantalum—as important to the Race's stutterwarps—was a prime consideration, for it was plain that new battlefleets would be needed to counteract attacks.

The Explorer probably would have found a name like Inferno apt for the planet he explored around an unremarkable red dwarf star far from the core worlds. The Explorer discovered tantalum and made ready to report this discovery. But his expedition had been dogged by an Enemy scoutship which also noted the resource and determined that it should not be claimed by the Race. The Explorer's ship was destroyed and his crew killed, but he managed to escape in a tiny life bubble. Before he died he made a telepathic recording in his plant "notebook" urging that word of the discovery be taken to the Race's homeworld in the core, though he knew the odds were against his tiny bubble being found. By the time humans found the enigmatic relics of the Explorer's final mission questions of war and survival had been settled.

Many details remain uncertain. Did the Enemy mine out the tantalum on Inferno, or do the deposits the Explorer found still remain? Was the lack of the Inferno tantalum crucial in deciding the Race's fate? Do relics of either warring group still survive in human space? Only time, and the referee, can answer.

## DREAM SEQUENCE

As the alien plant matures, it affects the crew by causing dreams, the subconscious translations of the alien's message, distorted and mostly lost, but sufficient to cause confusion, fear, and other effects.

Dreams occur in three different stages. The first stage begins after the plant has been on board long enough to begin growing. Roll 1d10/2 (round fractions up) for the number of days from the discovery of the artifacts to the first appearance of these dreams.

**The First Dream:** *You experience a vague feeling of fear and uncertainty. Everything is dark, and the walls are pressing in on you. You seem to be falling, endlessly, and somehow you know that the falling will never stop. Death is sure to come soon; without knowing how, you are sure that you will die. But before you die you have to tell someone what you have learned. You have to...*

*You wake up, still dizzy from the dream fall. Soaked in sweat, you are disoriented. The dream is more vivid than most dreams, and for a time it seems real. The feeling fades, and you sleep again.*



This dream may occur more than once per night. Roll 2d10 less than or equal to Determination to avoid a repetition of the same night. The dream will recur until the character moves into the second stage.

The second stage will only affect characters with an Intelligence of 12+. It begins after a variable amount of time has passed. Each night, roll 1d10/2 (round up); add the result to the character's Intelligence. Add 1 for each time the character has experienced the first dream. When the result is 25+ the character moves into the second stage.

**The Second Dream:** *You are on the bridge of a starship of unfamiliar design, staring at the forward viewscreen. A great ringed gas giant dominates the image, but against it are the exhaust flares of two missiles closing on your ship. You turn to give orders, but no words come out, and you find yourself gaping at some unknown kind of creature with a soft shell and a cluster of horn-sheathed legs. The creature scuttles away. Before you can react further the ship lurches, and clanging alarms make an unfamiliar scream in the background. Though they sound like nothing you've ever heard, you somehow know, instinctively, that you are hearing the warnings for hull ruptures and a power plant overload. The ship is dying, and you feel yourself racing for safety down twisting corridors and past more of the strange-looking creatures.*

*Now you are in the dark again, alone and falling. You touch something, a yielding rubbery surface; yet, though it doesn't move, you still have the sensation of falling. You know, though you didn't see them, that your friends and colleagues are dead aboard the ship; you know, too, that you could have prevented it if you had only acted faster. You are the only survivor. But surviving doesn't mean much now, because soon you too will die. And, unless you can tell someone what has happened, your inaction will kill other friends as well. If only you could reach home and tell everyone what you've discovered, everything would be well. If only...*

*Waking up, you spring out of the bunk and are halfway to the door, determined to find a way to tell someone...what? Shaking off the effects of the dream, you are left with a feeling of incompleteness; something important was missing from the dream, and you know it has something to do with delivering a message.*

*Frustration, guilt, fear, and the sensation of falling are all battling deep in your mind, and you are definitely afraid to go back to sleep for fear of being caught up in this dream again.*

This dream recurs if the character cannot roll less than or equal to Determination -3. It will be experienced every night until and unless the third dream stage begins.

The third dream will only affect characters with an Intelligence of 15+ and a Determination of 10 or less. Onset begins in much the same way as for the second stage; roll 1d10/2, add the result to the character's Intelligence, and add the number of times the character has suffered a second stage dream. When the result is 30+, the third dream will be experienced.

**The Third Dream:** *Darkness and falling, unending falling through an impenetrable darkness. These are the only sensations you can feel. You experience brief flashes of memory, seeing the missiles framed against the ringed gas giant, the long corridors of the doomed ship, strange round creatures that are at once abhorrent and yet comfortably familiar. There is a brief vision of a huge volcano on an eerie, barren plain, and this picture seems doubly familiar, far more so than the other memories. Then it is gone, and only the blackness remains.*

*Thoughts of home fill your mind. First you see your own home, your parents, and you desperately wish you could be with them. But mingled with these are views of an unfamiliar place, a magnificent city of soaring towers, arching walkways, and strangely beautiful curved lines and rounded domes. You see people moving about—no, not people, but more of the creatures you saw before, in the other dream. But they are people; you feel you should be able to recognize some of them as they pass briefly through your memory. Home...home...home...the thought beats into you with the force of a hammer. You have to go home, or everything you knew and loved will pass away. Home, under the thick-clustered suns that turn night into day...you have to escape the endless darkness and go home, to tell them the news...to deliver the message, the message in the Recorder...the message you are leaving behind you as you die.*

*Blackness and darkness still surround you, and you continue to fall. Now you hear a faint sound, a hissing noise that should be familiar. There is a smell you can't quite recognize in the air, and now you realize that you cannot breathe. Gasping for air, you thrash around as you fall, bouncing against the rubbery walls and frantically, desperately pouring all of your will, all of your soul into the last cry that simply must be recorded...*

*You wake up screaming, panting for air and grasping the sides of the bunk. This dream, more than any of the others, is truly terrifying, but still an enigma. You feel more than ever the imperative need to deliver a vital message, but still meaning and content elude you. And the thought of more dreams like the last one is enough to make you give up sleep for the rest of the night.*

Characters who experience the third stage dream will have an automatic recurrence the next time they try to sleep. Only by taking sedatives can they put aside the dream and sleep freely, and even then they will wake up with an uneasy feeling of something left undone.

Only one character on board will move into the fourth stage—Berghoffer or another character chosen by the referee to have the total deterioration. This character continues to experience the same dream, in increasing intensities, no matter what he or she does. As the dream patterns gain a stronger hold on this one target, the other characters gradually find that they have less vivid memories of their dream after each night. After 1d10/2 nights from the time Berghoffer enters the third stage, the dreams no longer cause as much unease in other crewmembers.



# 2300<sup>TM</sup>

## NyOTEKUNDU SOURCEBOOK

**T**he first star out from the Core on the French Arm is an unimpressive little red star like millions of others. But its location forces hundreds of ships to pass through the system, making it an oasis in a dearth of suns. This sun is the one which the Azanians called "red star"—Nyotekundu.

Nyotekundu's least-inhospitable planet, Inferno, has Azanian and French outposts. The French Portes d'Enfer is home to a contingent of businessmen, traders, smugglers, and troubleshooters who make their living off of the commerce moving past this tidally locked world. The underground complex is mapped and detailed herein, and includes the

Fleur-de-Lys nightclub and also the AmeriCo factory level. Inferno's surface is dotted with mines, factories, and weather stations built to withstand seismic conditions.



But around Nyotekundu's gas giant, Cocito, operates a huge OMS (orbital mining station), the *Andrew Carnegie*. Approximately one mile long, the station is essentially a giant accelerator, mining ice balls from the rings of the gas giant and shooting the ice to the thirsty inhabitants of distant Inferno.

The station has operated peacefully for years, but since discovering a strange artifact in the ice rings, it has gone oddly silent.

The entire orbital mining station is mapped and described in detail, down to personnel and equipment. The player characters are given the opportunity to train on board the *Carnegie*, providing them with more skills, and preparing them to meet an incredible, nascent threat to the station and crew, as a few desperate employees attempt to grapple with the leavings of an ancient alien being.

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