GURPS®

blue planet™

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STEVE JACKSON GAMES

GURPS
Blue Planet™

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About GURPS

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New supplements and adventures. GURPS continues to grow, and we'll be happy to let you know what's new. For a current catalog, send us a legal-sized or 9"×12" SASE – please use two stamps! – or just visit **www.warehouse23.com**.

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GURPSnet. This e-mail list hosts much of the online discussion of *GURPS*. To join, e-mail majordomo@io.com with "subscribe GURPSnet-L" in the body, or point your web browser to **gurpsnet.sjgames.com**.

The *GURPS Blue Planet* web page is **www.sjgames.com/gurps/books/blueplanet/**.

Page References

Rules and statistics in this book are specifically for the *GURPS Basic Set, Third Edition.* Any page reference that begins with a B refers to the *GURPS Basic Set* – e.g., p. B102 means p. 102 of the *GURPS Basic Set, Third Edition.* Page references that begin with CI indicate *GURPS Compendium I.* Other References are BE for *GURPS Bestiary,* BIO for *GURPS BioTech,* S refers to *GURPS Space,* TS for *Transhuman Space,* UT for *GURPS Ultra-Tech,* UTT for *GURPS Ultra-Tech 2,* VE for *GURPS Vehicles,* and VXi for *GURPS Vehicles Expansion 1.* The abbreviation for *this* book is BP. For a full list of abbreviations, see p. CI181 or the updated web list at **www.sjgames.com/gurps/abbrevs.html**.

INTRODUCTION

Lambda Serpentis II. Poseidon. The Blue Planet. At first glance it is very different from Earth, with only a few islands scattered across a world-girdling ocean. Yet it is habitable, with air that humans can breathe, a gravitational field that humans find comfortable, and native life that humans can eat. Despite the tremendous expense involved in traveling to Poseidon, tens of thousands of people make the trip each year. Some come in hopes of striking it rich. Others come out of duty to their masters on Earth. Still others simply hope to escape from their troubled homeworld and make a fresh start.

Poseidon is the only Earthlike world humanity can reach, other than Earth itself. Indeed, travel to the Poseidon system is possible only because of a cosmic accident. A wormhole gate drifts on the outer fringes of Sol system, allowing fusion-drive ships to make the crossing to the Lambda Serpentis system in a matter of months, rather than millennia. Humans have been unable to locate any other wormholes, despite decades of painstaking research. For the foreseeable future, Lambda Serpentis and Poseidon are the only outlets for mankind's interstellar ambitions.

Poseidon is a world of conflict. The natives, remnants of the first attempt at colonization, have taken up a deceptively primitive lifestyle, and insist on preserving Poseidon unspoiled. Newcomers are flooding Poseidon's frontier towns, and have brought all of Earth's troubles along with them. The Incorporate States have launched massive industrial operations, ruthlessly exploiting Poseidon's unique resources. The Global Ecology Organization is struggling to extend law and good government to Poseidon. The cetacean colonists hope to find their own destiny on Poseidon, without human interference. The aborigines, alien beings who lived on Poseidon before the arrival of humans,

remain a mystery. All of these factions have their own interests – and many of them are willing to use violence to attain their ends.

Poseidon is a world of enigmas. Decades of scientific work have barely scratched the surface. Most of the colonists don't spend much time thinking about it, but there is plenty of evidence of intelligent design behind their new home. The wormhole is a unique phenomenon, and may be artificial. Poseidon shows signs of massive terraforming operations in the geological past. Lifeforms on Earth and Poseidon have a suspiciously similar biochemistry. Add the presence of the aborigines, and it seems possible that humanity is in contact with the legacy of a powerful alien intelligence

In short, Poseidon is a world of adventure. Welcome. Jump in and see if you can swim.

About the Authors

William H. Stoddard lives in San Diego, California, where he works for the world's largest scientific publisher. He attended his first science fiction convention in the mid 1970s, walked into a session of *Dungeons and Dragons*, and has been roleplaying ever since. His first published book, *GURPS Steampunk*, won the Origins Award for best roleplaying supplement of 2000. In his spare time, he edits *Prometheus*, the quarterly newsletter of the Libertarian Futurist Society.

Jon F. Zeigler has been a science fiction fan since the cradle (literally). He has been playing roleplaying games since about 1980. In 1988 he discovered *GURPS* and hasn't looked back since. He and his wife and two children live in Maryland, where he works as a computer security consultant. He has written several books for *GURPS* and has also done freelance work for other games.

About *Blue Planet*

Blue Planet was first published in 1997 by Biohazard Games, and was nominated for an Origins Award for "Best New RPG" in the same year. A second edition was produced in 2000 by Fantasy Flight Games under license from Biohazard Games, and continues in print today. The game's core rules consist of a *Player's Guide* and a *Moderator's Guide*, and there are a number of supplements in print covering various aspects of the *Blue Planet* setting.
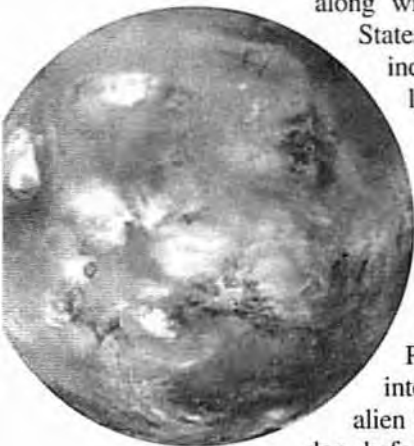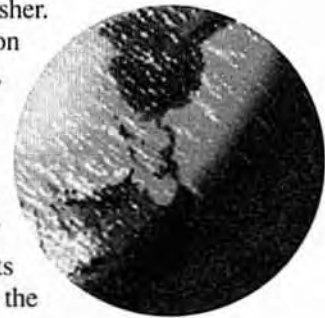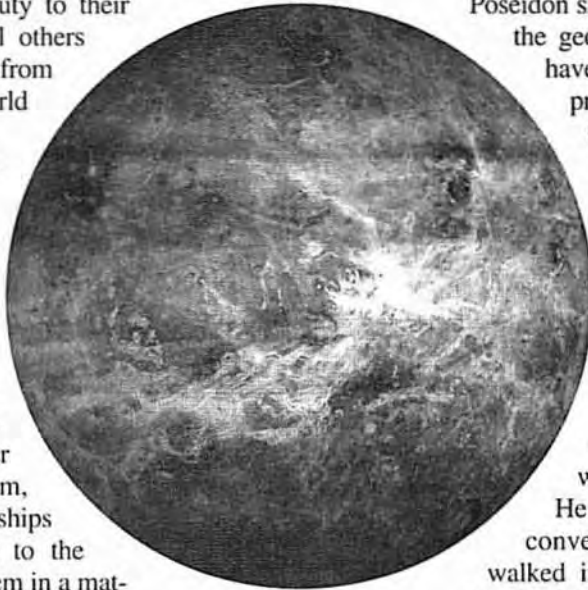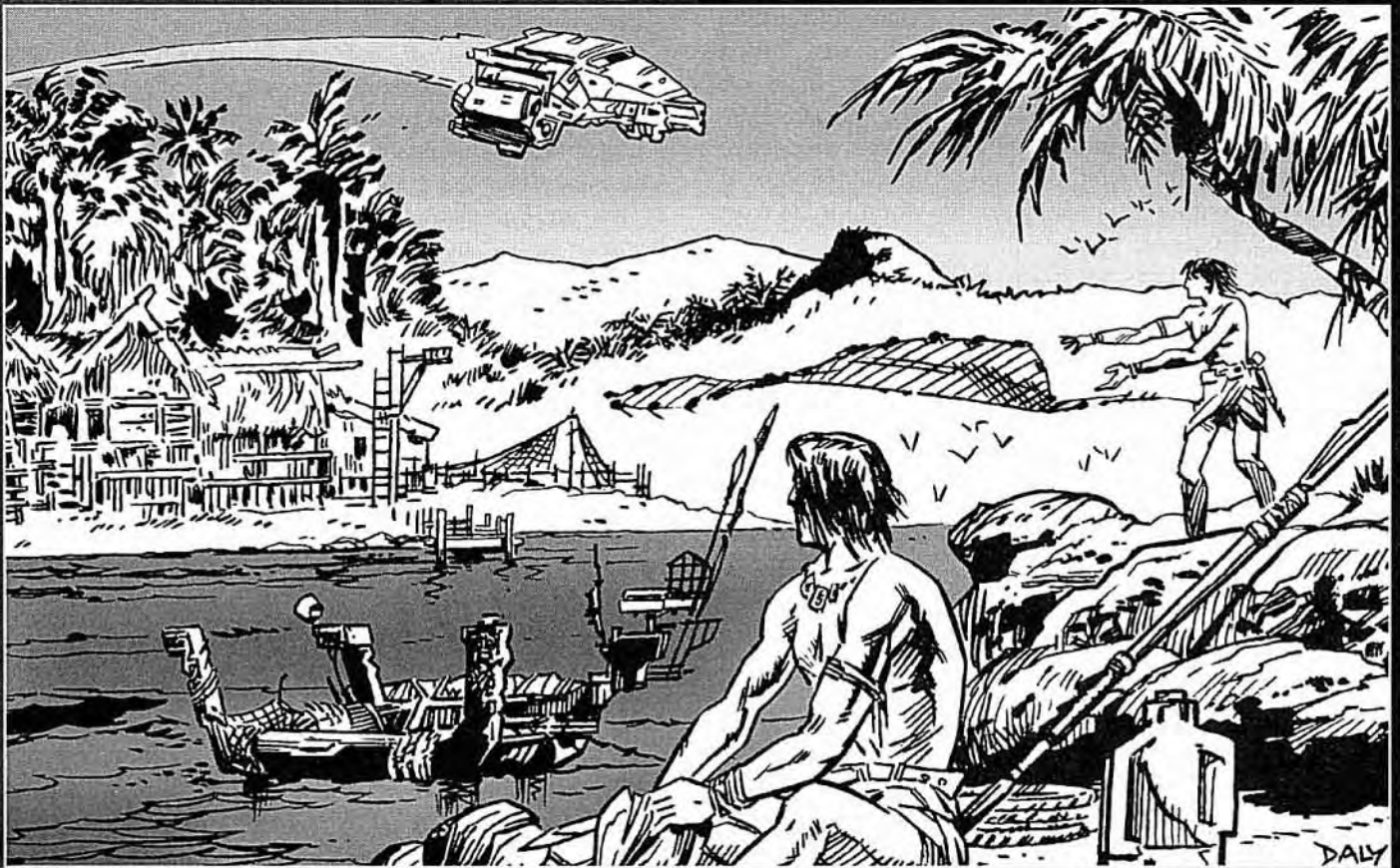
The first time Quentin had a chance to go down to the beach, he looked out across the channel and took a deep breath. Somehow he had expected the air to smell crisp and clean. It didn't. It was heavy, thick with moisture, and it stank. On Earth, he would have tagged the smells as coming from flowers, a manure heap, a freshly cut lawn, the rotting things that wash up on a beach, and perhaps a butcher shop. He hoped he would get used to the stench.

He walked down to the very edge of the ocean, and allowed it to wash over his feet. The sand felt like sand, the water like water. Surf hissed over the sand with a comforting familiarity. The sky was cloudy and Serpens was hidden, but the air and water were warm. For a moment, it all seemed incredibly mundane. Even the sight of a flock of aviforms soaring by, their movements subtly different from those of any bird on Earth, did nothing to break his disappointment. *All that struggling, a journey of dozens of light-years, for this?*

Quentin shrugged. He pulled his shirt off, tossed it behind him onto the beach, and took a running dive into the sea. He splashed in the surf for a moment, then triggered his diving reflex and went deep. His gills unfurled, his nostrils clamped shut, his lungs shut down, and he kicked freely for the bottom of the channel. It felt wonderful, much better than all the training dives back on Earth . . .

Quentin stopped, hanging in the water about 20 meters down. His heart thumped as he watched fish swim away from the large intruder in their realm. He felt too good, all of a sudden. **This must be the Lesear Effect some of the others mentioned.**

But then it began to spread, a tingling down his gills that somehow reached into his gut and his brain all at once. He half-heartedly tried to kick for the surface, and found his movements slow, clumsy. Even panic was already beyond him. There was a pressure in his head, the sense of a presence that sent his heart pounding.

The voices began, and the images.

Some time later, he found himself floating on his back in the channel. Serpens had emerged from the clouds and was shining full in his face. He dreamily remembered a Light even greater than that. **Thank you,** he prayed. **I understand now.**

Eventually, the others swam out to help him to shore. He was surprisingly weak and clumsy, but he cooperated as best he could. When they asked him what had happened, he had nothing to tell them. He didn't have the words, but he knew that he would find them before long.

THE 21ST CENTURY

The story of humanity on Poseidon begins 35 light-years away, on Earth.

During the course of the 21st century, human civilization made tremendous progress in a variety of fields. Fusion power and relatively inexpensive ground-to-orbit transport led to an industrial revolution. Biotechnology promised to make the world's population healthier and more productive than ever before. Although there were occasional flare-ups of international conflict and civil unrest, the world for the most part remained at peace.

Several intractable problems remained. Industrialization had a serious impact on the planet's ecosystems, causing the extinction of many species and unpredictable climatic shifts worldwide. Human populations continued to grow, even in parts of the world where the economic and physical infrastructure was insufficient to support the resulting masses of people. The authority of multinational corporations proved difficult to hold in check, especially once a number of them became powerful enough to overshadow national governments.

Nevertheless, for most of the century it seemed that humanity was finally working its way through its problems. An era of global peace and prosperity seemed possible. It was during this Golden Age that humanity suddenly attained one of its fondest dreams: travel to the stars.

The Serpent's Gate

In 2075, the astronomers John Masters and Yuri Vishenko published an extensive study of the orbital paths of comets from the Oort Cloud, the "cometary shell" that surrounds the Solar System on the cold fringes of interstellar space. Their study revealed a substantial anomaly, a disturbance in the orbits of thousands of comets. The most likely explanation was the presence of a massive body far beyond the orbit of Pluto.

Masters and Vishenko hypothesized the presence of a heretofore-unknown planet and predicted its location, but other astronomers searched for the interloper in vain.

Soon, the physicist Josef Ben-Gurion analyzed the Masters-Vishenko data and published a startling hypothesis. Ben-Gurion suggested that the hidden object was not a planet, but a Lorentzian wormhole – a short cut through space that could lead somewhere else in the galaxy. This notion was ridiculed at first, but Ben-Gurion's analysis was both compelling and complete enough to win over detractors. In 2077, the fusion-powered probe *Prometheus II* was launched to investigate the anomaly.

The probe's flight time was over a year. In 2078, *Prometheus II* arrived at the anomaly, sent data confirming that it was a wormhole, and traversed it to the other side. The probe's findings electrified the world. In the blink of an eye, *Prometheus II* had traveled 35 light-years, arriving in the neighborhood of the star Lambda Serpentis, strangely akin Earth's own sun. When the results were made public, a media consultant dubbed the wormhole the "Serpent's Gate."

Initial Exploration

Follow-up exploration was inevitable. In 2080, the United Nations launched a manned expedition to the Serpent's Gate to perform detailed surveys of the Lambda Serpentis system. The *Argos 12* astronauts discovered Poseidon – a habitable, Earthlike world. To the Argonauts' surprise, Poseidon proved to have a complex biosphere, based on the same DNA and proteins that formed the basis of Earth life. Poseidon's native life was edible and its soil could be farmed without massive terraforming. Clearly, human beings could live on Poseidon without facing the huge expense of building a habitable ecosystem from scratch.

THE ATHENA PROJECT

The discovery of Poseidon set off a fierce debate on Earth. Enthusiasts demanded that a colonial expedition be assembled, to populate the planet and create a new homeworld for humanity. Critics of the idea railed that any such expedition would be terribly expensive. The effect of the wormhole was to make interstellar travel only *horrendously difficult* instead of *flatly impossible*. The sheer cost of sending even a few thousand colonists to Poseidon might disrupt the whole world economy. On the other hand, colonial enthusiasts pointed out that the effort would give rise to countless technological spin-offs, giving humanity a long-term boost.

In the end, the enthusiasts won the debate. The Athena Project was established under United Nations sponsorship, to establish a permanent human presence on Poseidon. The first step was to build a series of massive colony ships. The first of these, the *UNSS Cousteau*, would carry the initial colonists to Poseidon. Resupply ships would follow at intervals of about eight years, bringing the computers and heavy equipment necessary for rapid industrial development.

The effect of the wormhole was to make interstellar travel only horrendously difficult instead of flatly impossible.

Cetaceans

The marine mammals known as *cetaceans* had suffered terribly during the 20th and 21st centuries. By the early 2040s, the last humpback whale had washed ashore in Hawaii, marking the extinction of the great whale species. Most of the wild dolphin and porpoise species were either extinct or had not been spotted in years. Even the common and bottlenose species of dolphins were rapidly declining. Killer whales had also begun to vanish.

It was in this context of global extinction that the Woods Hole Oceanographic Institute demonstrated the first "uplift" (see box, p. 8) of cetaceans to full sentience, in 2042. During the years that followed, the uplift techniques were refined at Woods Hole and similar facilities around the world. The result was a new dolphin species, *Tursiops sapiens,* capable of tool use and natural communication with humans. A few years later, the Wood Hole institute also produced an uplifted killer whale species.

Relationships between humans and uplifted cetaceans were tense from the very beginning. Cetaceans possessed an innate "spiritual" connection with the natural environment, and were horrified at the ecological destruction caused by human beings. They were further angered by the fact that human beings had caused the extinction of all but a few cetacean species. Sentient dolphins and killer whales still carried dim memories of their pre-sentient existence, remembering a time when they shared the ocean with great whales. Coming to sentience in a world where the whales were gone, the uplifted cetaceans often regarded humans as genocidal barbarians.

Meanwhile, uplifted cetaceans faced serious social prejudice and legal discrimination. U.N. and national law failed to extend the concept of "human rights" to the new sentient species. Legally, they were often able to claim stronger protections as members of species in danger of extinction than as sentient citizens.

It was in the world's military establishments that cetaceans found their first (albeit grudging) acceptance. The uplift projects themselves had been run with heavy military sponsorship, and most sentient cetaceans found themselves attached to military service in some capacity. Cetacean soldiers served in search-and-rescue teams, reconnaissance squads, and as special operatives. As sentient cetaceans developed their own culture, it took on a distinctively military cast. Of course, even in the military cetaceans faced deep-seated discrimination. Cetaceans were restricted to the lowest military ranks, and were often viewed as equipment rather than soldiers.

Cetaceans and the Athena Project

The Athena Project had a special significance to the world's uplifted cetaceans. It is estimated that over 85% of the world's cetacean population volunteered for the Project. The opportunity to begin life anew on a nearly untouched ocean planet proved irresistible for many cetaceans. Poseidon seemed like a haven, a place of spiritual redemption that would free them from a hell of ecological disaster and human prejudice.

In the end, the Project sent 500 uplifted cetaceans to Poseidon. This exodus marked a profound division in cetacean society. The dolphins and orcas who traveled to Poseidon *did* find their promised land. The human colonists accepted and even respected their cetacean partners, building a society in which the prejudices of Earth had no place. On the other hand, most of the cetaceans who remained behind were trapped in a kind of hell, soon to be made worse by the travails of the Blight. When the two branches of cetacean society were reunited, their divergent worldviews led to misunderstandings and conflict.

Humanity Transformed

Meanwhile, the Athena Project also contracted with the biotech firm GenDiver to provide certain biotech improvements for the potential colonists. The resulting package of genetic and microsurgical modifications was extremely expensive, but it was considered necessary to give the colonists every advantage in their new environment. Once modified, the colonists would be physically strong and tough, capable of prolonged strenuous effort, highly resistant to infection and disease, and able to tolerate extremes in climate.

The colonists would also be *aquaformed,* transformed into the first amphibious humans. They received webbing between the fingers and elongated feet to improve swimming ability. Nictating membranes, sealing nostrils, thickened layers of subcutaneous fat, modified skin that could tolerate prolonged exposure to salt water, a digestive system that could handle the salts in seawater . . . all of these were designed to allow the colonists to spend long periods in the sea.

Atop these basic modifications, the Athena Project designed two variant forms. Diving-reflex analogs, or "divers," were modified to share many of the adaptations of marine mammals. They had collapsing respiratory systems, specialized nitrogen-absorbing tissues, and tailored enzymes that limited the production of dissolved nitrogen in the bloodstream. Mature divers could operate underwater for up to an hour, swimming to extreme depths without any danger of nitrogen narcosis.

Systemic osmoforms, or "squid," went a step further. This variant form underwent extensive implant surgery to develop true gills. The new synthetic organs ran from behind the ears to the middle of the back, and were covered with layers of skin and muscle that sealed tightly when the body was not immersed. Squid could therefore use the dissolved oxygen in seawater to survive, remaining underwater indefinitely like a fish. Squid could dive deep, but due to pressure effects on their gills they could not dive below 550 yards.

Most crucial of all, the colonists were subjected to germ-line modification. Divers and squid would be able to breed with each other or with unmodified humans, and would be able to pass their adaptations along to their children. The Athena Project and GenDiver had effectively created a new human subspecies, one that would breed true in its new environment. The colonization of Poseidon would be pursued by an elite group of settlers, who would be adapted to their new environment immediately upon arrival.

Arrival

Despite the tremendous distance to the target world, despite the intimidating physical and genetic changes that any colonist would have to undergo, the Athena Project had no lack of qualified candidates. In 2082, the Project selected 5,000 candidates and 1,000 alternates from a pool of over half-a-million qualified applicants (50 million people applied initially). The selected colonists represented some of the most talented members from many key professions: astronauts, soldiers, administrators, scientists, engineers, computer specialists, agronomists, and physicians. The Project also recruited almost 500 genetically uplifted cetaceans, who were expected to exert a powerful influence on the development of the colony.

Finally, after years of effort and over a trillion dollars expended, the Project was ready to launch. In 2086, the *Cousteau* traversed the Serpent's Gate wormhole, arriving in Poseidon orbit on December 12. Landing operations began, culminating in the completion of the Haven colony in 2088.

Both critics and supporters of the colonial project proved partially right. The expense of the *Cousteau* expedition

Uplift

In the *Blue Planet* setting, dolphins and orcas have been genetically uplifted – modified for increased intelligence and self-awareness. This is an old theme in science fiction, going back to H. G. Wells' *The Island of Dr. Moreau*. But the name "uplift" was coined by David Brin, who wrote two linked trilogies of novels set in a galaxy-wide civilization based on the uplift process. Brin portrayed the culture of his uplifted dolphins in rich detail, including mystical beliefs akin to the Whalesong religion of Poseidon. Players or GMs wanting ideas for dolphin characters may want to read Brin's fiction, especially *Startide Rising*.

Further information can be gained from *GURPS Uplift, Second Edition,* planned for release at the same time as *GURPS Blue Planet.* The two settings are quite different but the material on character creation and nonhuman races is relevant to both. A crossover campaign is just barely conceivable, if the GM chooses to assume that humanity came (or will come) in contact with Galactic civilization after discovering and colonizing Poseidon; some of Poseidon's mysteries might be Galactic relics.

disrupted the world economy and set off a depression. On the other hand, the effort did produce a variety of new technologies. Meanwhile, the colonists had already accomplished what had seemed impossible even a few years before – they gave humanity its first toehold on a world of another star.

Haven prospered, awaiting only the planned resupply ships from Earth. The first such ship was expected to arrive in 2096. It never did.

DISASTER

The initial phase of the Athena Project was an event unprecedented in human history. The United Nations raised tremendous sums of money, spending it in a number of vital sectors of the global economy. While this did much to boost the power and prestige of the United Nations, it also had severe consequences for the world economy. The Project fueled considerable economic growth, but it also caused high levels of inflation and rising interest rates. When the initial phase of the Project was over, the reduction in U.N. spending caused a global recession. Markets collapsed, prices fell, and many major corporations that had been supporting the Project suddenly had to engage in massive layoffs.

Many historians argue that the disruption of global economic stability due to the Athena Project was the primary reason for the failure of world governments to contain the disaster known as the Blight. Others argue that without the project's stimulus to a number of technologies, especially biotechnology, the Blight might not have been defeated at all.

The Blight

In 2090, the Fischer Foods Corporation developed a genetically engineered virus, intended to attack a parasitic fungus that damaged rice crops. Before it could be tested under controlled conditions, the virus was somehow released into the ecosystem – where it began to infect the rice it was intended to protect.

At first, the Fischer virus appeared to be a serious but limited ecological problem. Within a year, however, variant strains of the virus appeared. The new strains proved much more virulent, and developed the ability to attack a wide variety of grain crops and grasses. Rice and other grain crops began to fail, first in Asia, then everywhere.

In the years that followed, the so-called Blight attacked world civilization where it was most vulnerable. Everyone desperately scrambled to survive and protect private interests, abandoning cooperation and the rule of law in the process. The lunar and deep space colonies cut off all contact with

Earth, fearing that the Blight would infect their hydroponic systems. Ecoterrorists and other radicals went on a rampage. Bloody wars erupted across a great arc from central Africa to East Asia. Major corporations threw off the rule of national governments, sometimes violently, taking sovereign authority into their own hands.

Earth was not rendered uninhabitable – but the human species was decimated.

Fortunately, only a few nuclear weapons were used during the 30 years of troubles. Earth was not rendered uninhabitable – but the human species was decimated. The population of Earth fell from its high of 10.5 billion (in 2090) to only 4.8 billion (in 2120).

Recovery

The desperate years of the Blight led to a grand transformation of human society. Aside from the fall in human populations, the most obvious effect was the drastic decline of the nation-state. During this desperate time, national sovereignty was just one more casualty.

Much of this national collapse had its roots long before the Blight. As the world's major corporations grew more powerful (and more arrogant), smaller nations found themselves unable to stand alone. Many nation-states began to turn over portions of their sovereignty to the United Nations, as the one global institution that was reasonably independent of the multinational corporations. The Blight accelerated this process, as the United Nations used its authority in far-reaching and unprecedented ways to respond to the crisis.

The Global Ecology Organization

The U.N. Secretary General established the Global Ecology Organization (UNGEO) in 2093, when the Blight had already killed one person in 10. The United Nations had enacted a range of emergency regulations in response to the Blight – it was the task of the GEO to monitor and enforce the compliance of the member states. At first, only the smaller nations, accustomed to subordinating their sovereignty to the United Nations, made a habit of obeying the GEO's dictates. Larger nations (notably China and the United States) obeyed the GEO when convenient and ignored it the rest of the time.

By 2095, the global situation was desperate and even the largest nations found themselves unable to deal with the crisis. In that year, the UNGEO was given authority to enforce its decrees on any national or Incorporate state. The U.N. Marshal Service was established to give the UNGEO an enforcement arm. Meanwhile, United Nations "peacekeeping" forces were expanded and transformed into an effective U.N. army. In 2100, all functions of the United Nations were subordinated to the GEO, in the belief that nothing less would give it the power needed to salvage the planet.

In the terrible years that followed, the GEO's authority grew at an astonishing rate. The organization assumed control over economic planning worldwide, directing food and other resources as it deemed necessary. It called up troops to contain or prevent wars. It imposed strict population controls. Resistance to the GEO was widespread, especially in the nation-states that had been most stable and powerful before the Blight. Even so, by the early 2130s the GEO was functioning as an effective world government.

The Incorporate States

While political authority was moving *up* from the nation-states to the GEO, it was also moving *down* to the multinationals. Where nation-states were unable to provide basic services or maintain order, these functions were often taken over by regional or city-state governments, which were sponsored or even wholly managed by multinational corporations.

The roots of the Incorporate movement went back to the early 21st century. As early as the 2020s, multinationals had been accepting (or demanding) quasi-governmental authority in parts of the developing world. This trend encouraged the multinationals to think of themselves as political entities with special rights and status. As time passed, they increasingly ignored mere national or even U.N. law.

Most of the multinationals (the prominent exception being aerospace and bioengineering contractors) were appalled by the vast expense of the Athena Project. When the first phase of the project triggered global depression, a number of multinationals gathered aboard Icarus Station, signing an agreement pledging mutual assistance against any future threats from the United Nations. These Icarus Accords were widely regarded as a "declaration of independence" against increasing U.N. authority.

The political conflict between multinationals and the United Nations was aborted by the Blight. As chaos spread, the multinationals moved to protect their own interests, often usurping full political and military authority in localized regions. The test case for this trend came in 2094, when the Biogene Corporation claimed sovereign status for the "company city" El Dorado. With support from the Columbian government and the other Icarus Accords signatories, Biogene petitioned the United Nations to recognize El Dorado as an independent city-state. Biogene claimed that it had the resources to maintain order in the region – and could therefore reduce the burden on the Columbian government and the United Nations itself. The corporation argued that such an action would give it all the responsibilities of a legitimate government, and that it therefore had the right to enjoy sovereign authority.

A heated debate followed in the General Assembly. Finally, the United Nations acceded to Biogene's request. Further, it published a resolution granting formal sovereign authority to "any Incorporated city-state capable of satisfying the obligations of government in regions where traditional national governments have failed to do so." Suddenly the United Nations and the Incorporate city-states were no longer rivals – indeed, the United Nations was now on record as supporting Incorporate independence even against the wishes of national governments.

Poseidon Abandoned

The Athena Project was one of the earliest casualties of the Blight. As humanity found itself embroiled in a struggle for survival, the Poseidon colony quickly became viewed as an expensive luxury. In 2093, construction of the first resupply vessel was put on hold. Soon afterward, the United Nations closed down the Athena Project entirely.

Loss of Contact

The Poseidon colonists became aware of their plight in 2096, when the first resupply ship failed to arrive from Earth. At the time, the colony was in no immediate danger – the supplies and equipment sent with the initial expedition were sufficient to last for years to come. However, the colony had no industrial base with which to replace equipment that wore out.

Over the years that followed, the colonists continued to raise families and pursue their scientific work. It was during this period that the colonists first sighted ray-like beings that showed occasional signs of tool-using and communicative behavior. Attempts to closely study the rays failed, sometimes disastrously, and the human colonists began to suspect that they were sharing their world with alien life of high intelligence.

By 2105, the colonists knew that they had been abandoned for reasons unknown. As equipment and transport vehicles wore out, the settlers began to redirect their efforts from research and exploration to long-term survival. High-tech items were increasingly rationed, particularly supplies of medicines and replacement parts. The situation became much worse in 2115, after the last of the *Cousteau* orbital shuttles was destroyed in a crash landing.

With the loss of the orbital shuttles, the widely-scattered towns were effectively cut off from one another. Worse, the colonists were no longer able to reach the *Cousteau* for its regular maintenance. In 2118, the starship's low orbit finally decayed, bringing it down in a fiery plunge into the depths of the ocean. Much of the wreckage, including the critical computer core, was never recovered. The Poseidon colony was not only cut off from Earth, it was now stranded on a potentially hostile world.

The Spread of Primitivism

Facing the loss of what little high-tech infrastructure remained, abandoning all hope of contact with Earth, the colonists opted for a new strategy. Small groups of volunteers chose to break away from the major towns to establish small independent colonies elsewhere. The colonists hoped that the dispersion of the new settlements would help guarantee human survival even if some disaster struck the central towns.

Naturally, the dispersed settlements were forced to do without almost all high technology. While the central towns were unable to maintain computer cores and fusion reactors, the survivalists were unable to maintain even simple high-tech devices. Indeed, the small post-dispersion settlements lacked the manpower or infrastructure necessary to maintain *any* industrial economy. The settlers therefore made a conscious choice to search for a lifestyle that could be sustained by small communities over an indefinite period.

Fortunately, the colonists had plenty of time to prepare, along with all the technical knowledge they needed to redesign their way of life. Even before the destruction of the *Cousteau,* the colonial headquarters in Haven began to facilitate the process, sponsoring extensive training programs and coordinating the new pattern of settlement. The children and grandchildren of the original colonists were particularly adept at making the transition, lacking their parents' psychological attachment to Earth. Within two generations of the Abandonment (as the colonists called the loss of contact with Earth) the "primitivist" society (p. 92) was well established.

During this transitional period, the cetacean colonists of Poseidon truly came into their own. The uplifted cetaceans had never grown dependent on high technology, and they were very quick to adapt to the situation after the Abandonment. Meanwhile, their newfound ability to think in human patterns made them uniquely suited to help their partners make the same adaptation. Cetacean expertise in "living off the land" earned many cetaceans leadership positions in the newly dispersed settlements.

After the fall of the *Cousteau,* a period of about 50 years followed in which the colonists continued to develop their relationship with their new homeworld. Poseidon's population began to grow rapidly. By the 70th anniversary of the colony (2157), the original 5,000 colonists had grown to over 35,000. Local settlements developed rich variations on the basic "primitivist" culture, a way of life superficially similar to that of Earth's ancient Polynesians. Disasters did occur – huge storms, parasitic and fungal infections, and the destructive failure of the last fusion reactor on the planet. Even so, the people of Poseidon thrived.

The Lesear Effect

During their first dives on Poseidon, many of the original colonists experienced strong euphoria. Some felt a sense of joyful welcome. Others felt *déja vu,* as if the oceans of Poseidon were actually long familiar. A few described the sensation as a mystical experience, and drew religious inspiration from it.

Nathaniel Lesear, a crewman on the *Argos 12,* was the first human to experience this euphoria while swimming on Poseidon. His experience was particularly powerful, and he was caught on camera while in the midst of it, so his case was well documented. The experience has been called the "Lesear Effect" ever since.

The Lesear Effect is hormone-induced, resulting from a poorly understood interaction between Poseidon's local environment and aquaform biomods. For most individuals, it occurs strongly only on the first dive, and is experienced only weakly afterward (if at all). However, some biomod aquaforms and Poseidon natives continue to report rare occurrences of the full Lesear Effect throughout their lives.

Cetacean Psychology and Culture

Both dolphins and orcas have psychological traits that set them apart from humans. Although individuals vary widely, some generalizations can be made about the mindset of each species.

The Dolphin Worldview

Dolphins appear not to exhibit the same dichotomy between the conscious and subconscious minds that humans experience. They are superb at a variety of analytic tasks, often bringing a kind of "directed intuition" into play that humans can only manage with difficulty. Dolphins will often intuit a piece of information or a course of action, without being able to explain or justify themselves to humans. Dolphins accept this kind of mental leap as a matter of course; humans often find it very frustrating.

Dolphins also have a very different sense of self. A dolphin's mind does not use the subject-object classification in the same way as the human mind. A dolphin's self is simply one aspect of an individualized world, rather than a unique thing that is essentially distinct from other things. For example, dolphins often identify strongly with familiar places, prized possessions, and the natural environment in a way that is incomprehensible to humans. A dolphin may risk his life in the defense of these things, identifying with them to such a degree that he values them more than his body's survival.

Uplifted dolphins remain as playful and mischievous as their primal ancestors. Even in the midst of an important task, a dolphin may take it into his head to play a prank on his partners. These pranks are not likely to be restrained by any concern for embarrassment or even injury – a dolphin's practical joke can have very serious consequences. This appears to be one aspect of the overall dolphin attitude toward morality. Although dolphins clearly have a moral sense, it does not appear to operate the same way as its human counterpart. Dolphins cannot easily explain to humans what their moral codes are, or why they were chosen. While working with humans, a dolphin may restrain his prankishness and follow human ethical standards – but this is a matter of courtesy rather than any personal commitment.

Uplifted dolphins are notorious sexual athletes. Their primal ancestors may have spent as much as one-third of their time pursuing sexual activity. An uplifted dolphin is able to consciously restrain his appetites, but he prefers not to. Dolphins engage in sexual activity long before reaching physical maturity. A young male dolphin will often engage in homosexual activity, or engage in couplings with his older female relatives. Dolphins are even sexually attracted to humans, although the reverse is usually not true. Humans who work with dolphins must often overlook their partners' sexual escapades. Promiscuity and homosexual behavior are usually tolerated, while the dolphin propensity for incest and interspecies attraction is a more frequent cause of tensions.

Uplifted dolphins have a rich and distinctive culture. One of the most prominent features of this culture is the dolphins' refusal to take proper names. Dolphins apparently feel that human naming conventions operate to objectify the person carrying the name, turning him into a thing. Instead, dolphins have "image-names" for themselves, complex symbolic representations that can be exchanged during dolphin-to-dolphin communication. Dolphins who work with humans usually accept some kind of descriptive title associated with their profession. Titles such as Doctor, Engineer, or Soldier are quite common. Dolphins with an especially poetic bent may accept titles that involve a pun or an obscure synonym for a common word. One amusing aspect of this custom has to do with dolphins whose professions involve illegal activity. A dolphin calling himself Burglar or Pirate is likely to attract a great deal of unwanted attention from law enforcement! Such dolphins usually choose titles that avoid incriminating connotations, such as Dodger.

The most prominent dolphin cultural institution is the Church of Whalesong Theogony. This religion was established by one of the first uplifted dolphins, and is presently almost universal among the species. Few humans have been able to make much sense of the religion, although some of its basic tenets have been identified. The Church places heavy emphasis on the primal aspects of dolphin sentience, such as the experience of the diving reflex or the mating ritual. It also appears to involve a narration of Earth's evolutionary history, expressed in a very dense and difficult form of epic poetry. The Church claims that this epic was composed by the great whales of Earth, millions of years in the past, and was passed on to dolphins even before their uplift. Human researchers are very skeptical about this claim, but it is an article of faith to dolphins.

Although the Church maintains specific places of worship, such as a massive temple in Haven on Poseidon, its rituals and gatherings are fairly informal. Members simply gather to commune, exchange scraps of epic poetry, worship, eat, gossip, engage in sex, and otherwise enjoy each other's company.

The Orca Worldview

Uplifted orcas have a much simpler culture than their dolphin cousins, possibly because they are not quite as intelligent. Where dolphins are quick-witted and intuitive, orcas tend to be careful, methodical thinkers.

Uplifted killer whales exhibit little cultural development. When not working with humans or dolphins, they follow a way of life almost indistinguishable from that of their primal ancestors. Like their primal ancestors, uplifted killer whales tend to fall into "resident" and "transient" categories. The psychology of an individual orca depends strongly on which social type he prefers.

Resident orcas are very social, forming pods based on family relationships. Each pod is usually composed of an elder matriarch and her own descendants. Such pods tend to follow a lifestyle much like that of their ancestors, staying in their home waters to hunt, play, and socialize. Resident pods develop their own dialect of the primal orca language, distinct enough for human researchers to distinguish the pod membership of any individual orca they meet. The major cultural

development among uplifted resident orcas involves the relationship of adults to their offspring. In primal pods, the rearing of young was an exclusively female responsibility. Among uplifted orcas, the males of the pod have begun to take an interest in the young, spending time instructing them in orca history and culture. Unlike the promiscuous dolphins, resident orcas appear to be discovering the institution of fatherhood.

Transient orcas are much more antisocial, aggressive, and nomadic. Most of them are males. They often travel great distances in small hunting pods, possibly joining a resident pod during mating season. Although transients are regarded as more "savage," they are also better suited to working in human society. Their natural pack ethic has given them a strong sense of teamwork, which enables them to fit well into human work groups. Transient orcas like a highly structure social environment, where every member of the team has a well-defined role and the chain of command is very clear. Transients have most often found their way into the military,

although this is not universal. Some transients have worked well as members of exploration or research teams working in the wilds of Poseidon.

Uplifted orcas of both types appear to have a rich spiritual life, although they lack the deeply poetic mindset of their dolphin cousins. Many killer whales are members of the Church of Whalesong Theogony. They do not appear to rise to leadership positions within the Church, although this may simply be an illusion bred by the fact that orcas find it much harder to explain their beliefs to human observers.

Dolphins and orcas are fully capable of working and socializing together. However, dolphins have a strong preference for the presence of resident pods. They consider resident orcas to be "civilized," and often make friends with them. On the other hand, dolphins have an instinctive fear of transient orcas – not surprising, since primal transients often hunted primal dolphins in the oceans of Earth. Dolphins call uplifted transients "savages," and display a great deal of condescending bigotry toward them.

RECONTACT

By the 2160s, the Poseidon colonists were completely adapted to a low-technology way of life. Of course, they had not abandoned all of the *knowledge* that had once driven their society. Where they could pursue advanced scientific research without high-tech equipment, they did. One example of this was the astronomical observatory maintained by a large community on Epoch Island. The astronomers there had compiled extensive observations of the Lambda Serpentis system, and maintained a constant watch on the skies.

Thus, when the *UNSS Admiral Robert Perry* arrived in Poseidon orbit in 2165, the Epoch Island community was aware of its presence long before it began landing operations. After decades of isolation, Poseidon was suddenly confronted with an expedition from Earth.

Arrival

By the mid-2150s, the Blight crisis was effectively over, the population of Earth was beginning to rise once again, and the GEO had begun to relax its control of world resources. In 2155, the World Space Agency began planning for an eventual expedition back to Poseidon, to resume exploration and discover the fate of the original colonists. At first the plan had very little support – but a few years later, an eccentric industrial tycoon named Ernest Carslake left his entire fortune to the WSA recontact project. Carslake had long been a lone (and rather eccentric) voice in support of renewed space development. In his will, he framed his bequest as an attempt to make space exploration "heroic" again.

By 2162, the WSA had contracted with Dundalk Shipbuilding to construct a long-range, fusion-powered ship capable of reaching the Serpent's Gate. The *UNSS Admiral Robert Perry* was launched in 2164 and arrived in Poseidon orbit the next year. The expedition's approach was cautious, with the astronauts spending months on careful orbital surveys before beginning to shuttle crew and equipment to the surface.

For a few years, the recontact made almost no difference to the "native" population of Poseidon. A small GEO base was established in Haven, and scientists and researchers occasionally visited the largest settlements. The natives welcomed the technological resources brought by the newcomers, especially medical equipment and pharmaceuticals. On the other hand, the stories of the Blight and its aftermath were disturbing, even terrifying, to the scattered natives. Clearly, human civilization on Earth had acquired a hungry and ruthless edge – and some natives began to doubt that the wormhole would be enough of a barrier to protect Poseidon's independence.

After the success of the *Perry* expedition, several organizations on Earth began to push for the construction of the ships and equipment necessary for regular contact with Poseidon.

In 2172, the *UNSS Ballard* arrived in the Lambda Serpentis system, carrying more than 500 scientists and technicians in cold-sleep, along with over a half-million metric tons of supplies. The natives welcomed the supplies, but the new settlers were a disturbing presence. That one trip more than doubled the population of the GEO base at Haven, and it also allowed the GEO to begin establishing permanent stations elsewhere in the Pacifica Archipelago. From that time on, ships arrived at Poseidon on a regular and increasingly frequent basis.

Four years later, the natives found even more reason for unease. In 2176 the *UNSS Nereid* brought a team of GEO administrators, who proceeded to set up the first bureaucratic institutions in Haven. The natives had never made any attempt to set up a planetary government, and since the end of the dispersion era even the prestige of the Haven settlement had been nominal. Now the GEO was demonstrating interest in "organizing" the inhabitants of Poseidon, possibly in ways incompatible with native culture.

Even more disturbing, the *Nereid* carried the first representatives of private interests to land on Poseidon. Research teams from Lavender Organics, GenDiver, and Atlas Materials all landed at Haven and set up small corporate offices. Many natives were openly concerned with this development, recalling the negative aspects of the homeworld's Incorporate culture.

The Long John Rush

At first, the presence of Incorporate personnel on Poseidon seemed innocuous enough for all but the most untrusting natives. Indeed, there was no conceivable resource to be found on Poseidon that could possibly be worth the tremendous costs of transportation back to Earth. For several years, Poseidon remained of purely scientific interest.

This changed in 2185, when an Atlas Materials survey team discovered deposits of a previously unclassified form of silicate in the crustal plates of Poseidon's ocean floor. These "xenosilicates," completely unknown on Earth, had a wide range of extremely unusual properties. In particular, the Atlas Materials scientists discovered that they could be used to manipulate DNA-based biochemistry with unprecedented accuracy and efficiency.

At this point, the visitor is on his own. It's time for him to make a fortune or die trying.

The Voyage

Anyone living back in the Solar System who wants to make the trip to Poseidon has several options. The GEO and Incorporate states all operate their own transport ships, ferrying employees and contractors out to Poseidon. A few private institutions also lease or buy ships to make the crossing (although these are likely to be old and poorly maintained). Getting a berth on a Poseidon-bound ship is not easy. A potential colonist who is already a GEO or Incorporate employee, or who has credentials good enough to get such a position, may be able to arrange a transfer to Poseidon. Anyone else will need to have a great deal of money, some luck, or both.

During preflight preparation, each voyager undergoes a long and very unpleasant medical procedure. His skin is treated with harsh chemicals to kill off any microorganisms living there. This treatment will bleach his skin and remove much of his epidermis, not to mention burning off every hair on his body. His gastrointestinal tract is also treated to flush out bacteria and waste matter. Finally, he is sealed into a "cooler coffin," attached to dozens of tubes and electrodes, and put under sedation. Unless the traveler is unusually privileged, unsympathetic technicians will carry out this entire procedure, all the while behaving as if they were processing cargo.

The voyage to Poseidon takes up to a year, although the travelers in cold sleep sense none of this time. Upon arrival, the traveler awakens in one of the receiving bays on Prosperity Station (p. 124). At best, he will feel terrible – weak, trembling, subject to violent dry heaves, and itching all over. At worst, parts of his body will fail to come through the freezing and revival intact. At the *very* worst, he will fail to awaken at all.

After a few days of recovery, the new arrival will go through a rather intrusive Customs and Immigration inspection. It may seem strange that it takes place at the *end* of the journey – but the only chance the GEO has to restrict access to Poseidon is at Prosperity Station. There are too many points of departure from Earth. The GEO inspectors closely examine each arrival's baggage, and ask probing questions about his reasons for traveling to Poseidon. If the visitor fails the inspection, he can remain on Prosperity Station as long as he can afford to, or he can return to Earth. Depending on the reason he failed, he might also be fined, incarcerated planetside, or deported back to Earth (deportation is rare, because of the cost). If he passes, he can pick up his registration pass for a free shuttle trip down to the planet's surface.

Most of the shuttles touch down at the three largest spaceports on the planet; at Haven (pp. 100-102), Second Try (p. 103), or Kingston (pp. 120-121). In any case, the traveler is likely to suffer a fierce case of culture shock in his first day on Poseidon. Compared to most places back on Earth, Poseidon's settlements tend to be busy, freewheeling frontier towns. A new arrival will see a greater variety of people and customs than he ever thought possible. Meanwhile, a lot of these strange people will be trying to sell him things, with aggressive sales tactics and very inflated prices compared to what he is accustomed to on Earth.

At this point, the visitor is on his own. It's time for him to make a fortune or die trying. Or perhaps, time simply to enjoy the freedom and natural beauty that Poseidon has to offer, which have long since been lost on Earth.

The commercial potential of xenosilicates was obvious, and Atlas Materials tried to keep its discovery secret. Unfortunately, a disgruntled Atlas employee smuggled research information out of the facility and sold it to an Earth-based media conglomerate. Before long, other corporations and GEO research groups were acquiring xenosilicate samples and performing their own experiments.

In 2187, an independent laboratory on Earth used a xenosilicate "template" to produce a set of precisely tailored retroviruses. These "smart viruses" were designed to have incredible therapeutic value – they could prevent cancer, destroy existing cancers, fortify the human metabolism, and stop the degradation of genetic expression in living cells. The virus effectively arrested the aging process and significantly improved a subject's overall health.

News of this development swept the Earth at once. Suddenly, Poseidon was no longer a simple scientific curiosity, but the source of the Fountain of Youth. Since xenosilicates were available only on Poseidon and were quickly used up in the process of manufacturing the new tailored viruses, conditions were ripe for a "gold rush" unlike any in human history. Corporations and governments alike began an all-out effort to acquire more of the longevity ore, colloquially called "Long John."

Within a year of the Long John discovery, GEO had awarded contracts for three more large interstellar transports. Incorporate states and the largest independent multinationals were spending billions researching Long John harvesting technologies. 2190 was the watershed year, in which the new transports began back-to-back transits of the wormhole. In that year, there were just over 70,000 native Poseidoners – and 20,000 new colonists from Earth. In succeeding years, the influx grew even further. The first massive wave of newcomers was composed primarily of miners and engineers employed by the Incorporate states. In the waves that followed, the population became more diverse, bringing a tremendous variety of hopeful (or desperate) people wanting to cash in on the Long John boom.

On the Horizon

The exploding population of Poseidon and competition for the valuable Long John fields led inevitably to a surge in armed conflict and outbreaks of industrial espionage. In 2192, an Atlas Materials facility was destroyed in an apparent attack by GenDiver security forces, leading to an open war between the two Incorporate states. Soon all the Incorporates were sending thousands of security personnel to Poseidon. The GEO responded by expanding its own presence. In 2194 a large contingent of GEO Marshals, Magistrates, and Shock Troopers landed on Poseidon in an attempt to keep the peace. Since then, the Incorporate states have engaged in little open warfare, although sabotage and espionage continue unchecked.

Meanwhile, violent confrontations between newcomers and the natives were rapidly becoming more common. Biogene and the Europa Island community engaged in a short but bloody confrontation in 2189, setting a trend that continues to the present day. The Incorporate interests take the legal position that no legitimate political authority existed on Poseidon after the Abandonment – which relegates the native population to the position of illegal squatters. Meanwhile, some of the more aggressive native communities, in an attempt to defend their homes or the local ecologies, have mounted localized campaigns against newcomer facilities and personnel.

The GEO itself claims governmental authority over Poseidon, presenting itself as the legal successor to the United Nations and the Athena Project's management cadre. GEO strategy has been to keep the peace, mediating some conflicts and using what force it has to stop others. Although the GEO is not terribly popular on Poseidon, most colonists are willing to admit that its presence may be the only factor preventing the planet from becoming a full-fledged war zone.

Campaigning on Poseidon

The *Blue Planet* setting is designed to present a rich and detailed world. The available character concepts are very diverse, so it would be easy for a group of players to build characters that had no logical reason for "adventuring" together. The GM for a *GURPS Blue Planet* campaign is advised to select a specific premise for his campaign ahead of time. The players should know this premise before they begin character design, so that they can create characters that will fit into it (and work well with each other). Ideally, the players will have a say in choosing a campaign premise. The following are a few concepts for campaigns that bring together multiple character types.

Competition by Other Means

Characters are security specialists or covert operatives, working for an Incorporate state which is using non-traditional methods to overcome its rivals. Incorporate employees usually have access to good training, equipment, and weapons. On the other hand, so do their opponents from other Incorporate states. Meanwhile, none of the Incorporates are particularly popular on Poseidon – a covert operation may well fall afoul of a zealous GEO policeman or a mob of native activists.

Explorers

Despite a century of human occupation, Poseidon is still barely explored. Scientists, frontiersmen, and expert guides are all in great demand to explore the planet's uncharted regions and uncover its ancient mysteries. Exploration teams can have any level of equipment, depending on their sponsorship. They are likely to spend long periods out in the wilderness, far from any possible support.

Peacekeepers

The characters are a group of GEO Peacekeepers, stationed in an isolated outpost somewhere on Poseidon. They will have better equipment and weapons than any of their probable opponents, but those opponents will usually have larger numbers. When a Peacekeeper isn't involved in some brushfire war, he may be excruciatingly bored (although a good officer will keep his men active with training and busywork). Of course, there's always a small town just off base, where there are plenty of people willing to help a soldier part with his extra cash.

Police Procedural

The PCs are law enforcement officers, working in a specific settlement or region on Poseidon. They are charged with maintaining order, investigating major crimes, and catching the perpetrators. They are almost certainly undermanned and lacking in adequate resources. The party may be composed of a GEO Marshal and his staff, a set of GEO Patrol officers, or members of a local constabulary (possibly a Native Patrol unit).

Revolutionaries

The adventurers are an ecoterrorist cell or a band of native insurgents, fighting against the exploitation of Poseidon. Adventures will usually involve hit-and-run raids or sabotage missions. If the party comes up against GEO or Incorporate security forces, it's time to run or die. The struggle to find weapons and equipment will always be difficult, although Poseidon's revolutionaries sometimes have allies in strange places.

Underworld

Many of Poseidon's towns and cities are infested (or even dominated) by street gangs and criminal syndicates. The adventurers are members and associates of such a group, trying to survive on the colony world by ignoring or flouting the law. Criminal campaigns can involve gritty street violence, Machiavellian manipulation, or both.

Wild Frontiers

Sometimes just surviving on Poseidon is an adventure in itself. The characters are members of a small frontier community, either a native village or a newcomer's colonial settlement.

In the setting of *GURPS Blue Planet*, defining a beginning point level can be an exercise in frustration. Cybernetic and genetic modifications make a wide variety of enhanced abilities available. Characters can range from a pure-strain human too poor to afford even a neural interface jack or pan-immunity to a spy or supertrooper whose implants give him low-grade superpowers. Rather than insisting on an exact point total, give players a target number within one of the following bands, but allow deviations of up to 20% to fit a suitable character concept:

100-200 points: Appropriate for a group consisting mainly of humans and genetic upgrade humans.

250-450 points: Appropriate for humans with major genetic or cybernetic upgrades or for cetaceans. It can also represent ordinary humans who have lived a long time, accumulating considerable experience and resources.

500-750 points: Appropriate for top-end augmented humans or cetaceans, such as GEO shock troopers and spies.

Another approach, for the GM willing to tolerate a wide disparity of point totals, is to start out by selecting templates: a racial template, a cultural template, and two professional templates (both basic, one basic and one advanced, or both advanced, at the GM's discretion). List all the advantages, disadvantages, and skills from the various templates. Set the attributes to the values required for the professional templates, modified by racial bonuses. Take additional disadvantages up to a total of -40, up to five quirks worth -1 each, and any points gained from buying down attributes; use the resulting points for customization, including higher attributes, biomods and other advantages, and skills. At the GM's option, especially in a high-powered campaign, extra points may be allowed for additional biomods – 50, 100, or 200 points depending on the desired power level.

For an even more flexible approach, don't worry about the point cost of biomods at all. Determine the adventurers' starting wealth, and let them spend up to 20% of it. (At the GM's option, a Poor person or one with no fixed residence can ignore the 20% limit.) Average starting wealth will buy one or two minor biomods for $6,000; a Filthy Rich character can spend $600,000 to become a low-grade superman. Assume that any necessary healing time has passed before the start of play.

RACIAL TEMPLATES

Every character must have a racial template. Racial templates define the characteristics of an entire species or subspecies. Most of these are genetic, including attribute modifiers and many advantages and disadvantages. Some reflect the social position of the race, racially learned skills, or racial skill modifiers. Races may also have racial quirks, features, or taboo traits, worth -1 point (for quirks) or 0 points (for features or taboo traits). The combined total of all these traits is treated as a single advantage or disadvantage; racial disadvantages do not count toward the -40 point limit.
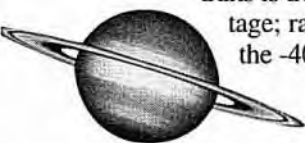
Attribute modifiers affect character creation differently than attributes. For example, a Silva has +3 to ST, which costs 30 points on the racial template. A Silva character can pay 10 points to raise ST from 10 to 11; the racial attribute modifier then raises it to 11 + 3 = 14 for a total cost of 40 points. But a human buying ST 14 would pay 45 points (see p. B13).

Human Templates

Pure-Strain Human   0 points

Pure-strain humans have not been genetically redesigned prior to birth or modified thereafter, usually due to poverty and/or religious objections.

Quirks, Features, and Taboo Traits: Has no cybernetic implants or genemods at start of play [0].

Modified Human   0 points

Modified humans have not been genetically redesigned prior to birth, but have gained at least one cybernetic enhancement or genemod (see *Upgrades*, below) thereafter; the cost is not figured into the racial template, but at least one biomod should be taken during customization.

GEO Shock Trooper   314 points

GEO shock troopers, or supertroopers, are not a new human strain, but they have modifications extensive enough to merit their own template. Some of these are available separately as genemods (see *Upgrades*, below). Note that though they have improved blood oxygenation, they do not gain the Fit advantage due to the greater demands of their metabolisms. Their body weight is increased 10% by their toughened skeletons and an added 40 lbs. by their increased muscle mass. This template does not include cybernetic implants, but supertroopers normally have one or more of these also.

Attribute Modifiers: +4 ST [45]; +2 DX [20]; +2 HT [20].
Racial Advantages: Acute Hearing +2 [4]; Breath-Holding (Two levels) [4]; Cast Iron Stomach [15]; Combat Reflexes [15]; Damage Resistance 3 [9]; Extra Encumbrance [5]; Extra Hit Points +2 [10]; Hard to Kill +3 [15]; Hyperactive [30]; Hypertough Skeleton [75]; Longevity [5]; Night Vision [10]; Panimmunity (+8 to HT to resist any disease) [5]; Passive Defense 1 [25]; Radiation Tolerance (Divide effective dose by 5) [10]; Telescopic Vision ×4 [12].
Racial Disadvantages: Unattractive [-5]; Unnatural Feature (Armored skin) [-5].

Genemod Templates

A variety of genetically modified human strains were developed in the 21st and 22nd centuries. Hybrids were created in 2065 in a secret collaboration between the United States, Germany, and the Biogene Corporation. Transhumans were created in 2074 by Lavender Organics. A joint venture of the United Nations and GenDiver Corporation created aquaforms in 2080 to aid the colonization of Poseidon. Finally, the Martian government and Lunar interests developed spacers in 2102. The exploitation of xenosilicates opens up the possibility of developing additional genemod strains.

Upgrades

At the end of the 22nd century, science and technology offer a variety of ways to improve the basic human model. The older cyberware is giving way to more sophisticated genetic methods aided by the use of Long John. Here's a quick guide to the options and the standard names for them:

Biomod: Short for *biotechnological modification.* Includes any kind of improvement in the human body, whether cybernetic or genetic. Also used more narrowly to mean *genemod.*

Cyberware: Electromechanical devices that are incorporated into a living body, to replace or augment its natural organs and structures.

Implant: Any item of cyberware; especially, a relatively small item that is placed inside the body.

Genie: A member of a genetically redesigned human species, with novel traits that are passed on to offspring; e.g., an aquaform, Cat, Silva, spacer, transhuman, or more exotic breed.

Genlifted: A member of an animal species whose intelligence has been genetically enhanced to human or near-human levels, such as a dolphin or orca.

Genemod: Short for *genetic modification.* The process of conferring new traits on adult organisms through biological means, including changes at the cellular level produced by transform viruses carrying specifically targeted genetic material, and also changes at the gross anatomical level produced by surgery. (Treat the transform virus as a special, limited TL9 of a proteus nanovirus, pp. BIO77-79.) Usually these changes affect only the specific cells relevant to the new function, not the reproductive cells, and thus don't breed true. Whole-body genemods that actually change a person's species may be made hereditary by altering the ova or sperm.

Members of modified human strains cannot purchase additional genemods that confer more than +1 to any attribute. Other genemods cost 50% more than for standard humans. These limitations constitute a taboo trait worth 0 points.

Aquaform
61 points (Diver)/ 57 points (Squid)

There are two distinct types of aquaforms, divers and squid, which share a large number of traits adapting them for life under the water. Squid have actual gills in folds of flesh running from below the ears to the small of the back; divers have the ability to hold their breath for a long time (averaging 1,760 seconds, or twice as long if they hyperventilate first). Both types have unusually thick subcutaneous fat for insulation against cold ocean water. Fingers webbed to the second joint slightly impair their manipulative ability.

Attributes: HT +1 [10].
Advantages: Amphibious [10]; DR 1 [3]; Decreased Life Support (Salt tolerance) [5]; Fit [5]; Nictating Membrane 1 [10]; Pressure Support [10]; Temperature Tolerance 2 (Colder temperatures) [2]. *Diver:* Oxygen Storage [14]. *Squid:* Gills [10].
Disadvantages: Overweight [-5]; Reduced Manual Dexterity 1 [-3].

Customization Notes: Aquaforms do not need the Swimming skill; they can automatically swim at their normal Move rate. They can learn Endurance Swimming and Speed Swimming.

Cat
55 points

Cats have lithe bodies, averaging 2 inches taller and 10 lbs. lighter than a standard human being of the same ST. They are covered in soft fur, thinner than that of an actual cat, with no protective value. They have large, mobile ears, slit eyes, and sharp teeth and claws. Their teeth give them a slight speech impediment.

Attributes: ST +2 [20]; DX +2 [20].
Advantages: Acute Hearing +2 [4]; Claws [15]; Combat Reflexes [15]; Night Vision [10]; Sharp Teeth [5].
Disadvantages: Disturbing Voice [-10]; Reduced Manual Dexterity -3 [-9]; Social Stigma (Minority Group) [-10]; Unattractive [-5].

Silva
40 points

Silvas have large, heavily built bodies, reflecting simian genetic ancestry. Their height and weight are in proportion to their increased ST. They have thick body hair, slightly clumsy hands, and large, prominent canine teeth that hamper their speech.

Attributes: ST +3 [30]; HT +2 [20].

Advantages: DR 1 [3]; Extra Hit Points +2 [10]; Sharp Teeth [5].
Disadvantages: Disturbing Voice [-10]; Reduced Manual Dexterity -1 [-3]; Social Stigma (Minority Group) [-10]; Unattractive [-5].

Spacer
47 points

Spacers are genetically engineered to function efficiently in an outer-space environment. They have tough skins that can withstand pressure and temperature changes, and they are resistant to radiation and to gravity changes. Their most visually striking difference, though, is the modification of their feet to function as extra hands.

Attributes: ST -1 [-10]; DX +1 [10]; HT +1 [10].
Advantages: 3D Spatial Sense [10]; DR 1 [3]; Double-Jointed [5]; Extra Arms (Two, short, cannot walk while using them as arms, -35%) [7]; Improved G-Tolerance (Increment 0.5 G) [10]; Radiation Tolerance (Divide effective dose by 5) [10]; Regeneration (Slow; only to replace bone lost through decalcification, -75%) [3]; Temperature Tolerance 2 [2].
Disadvantages: Reduced Move -3 (Walking) [-15].
Quirks, Features, and Taboo Traits: Home gravity 0 G [0].
Racially Learned Skills: Free Fall at DX [2].

Transhuman
60 points

Transhumans are not obviously different from standard humans; they simply look fit and attractive. Typically they are children of wealthy or high-Status parents.

Attributes: +1 ST [10]; +1 HT [10].
Advantages: Alertness +1 [5]; Attractive [5]; Breath-Holding 2 [4]; Fit [5]; Disease-Resistant [5]; Less Sleep 2 [6]; Longevity [5]; Rapid Healing [5].
Quirks, Features, and Taboo Traits: No genetic defects [0]; No vestigial organs [0]; Heal without scars [0].

After all this time, you'd think the rest of humanity would have worked the jokes out of their system, but there's always some jerk who thinks it's really funny to dangle a piece of string in front of your face or bribe the bartender to bring you a saucer of milk. I can tolerate stuff like that, but the next guy who makes fun of the way I talk is gonna get a new facial tat from my thumbnails.
– Overheard in "The Tangled Skein"

Cetacean Templates

Genemods for cetaceans cost twice as much as those for standard humans. This is considered to be a taboo trait worth 0 points.

Dolphin   146 points

Genlifted dolphins average 12 feet long and weigh 750 lbs. They eat 30 lbs./day, mostly fish. Their bodies lack manipulatory organs, but through contact with human civilization they virtually all have access to CICADA units (see p. 49).

Attributes: ST +10 (No Fine Manipulators, -40%) [60]; DX +2 [20]; IQ -1 [-10]; HT +2 [20].

Advantages: 3D Spatial Sense [10]; Acute Hearing +3 [6]; Alertness +3 [15]; Animal Empathy [5]; Enhanced Move 1 (Swimming) [10]; Extra Hit Points +2 [10]; Independently Focusable Eyes [15]; Intuition [15]; Less Sleep 1 [3]; Nictating Membrane 1 [10]; Oxygen Storage (30 minutes) [12]; Peripheral Vision [15]; Pressure Support (Up to 100 atmospheres) [10]; Sonar Vision (Only in water, -30%) [18]; Striker (Ram) [5]; Ultrasonic Speech [25].

Disadvantages: Aquatic [-40]; Chummy [-5]; Dreamer [-1]; Horizontal [-10]; Inconvenient Size [-10]; Increased Life Support 1 [-10]; Lecherousness [-15]; Mute (Mitigated, -60%) [-10]; No Manipulators (Mitigated, -60%) [-20]; Responsive [-1]; Short Lifespan 1 [-10]; Social Stigma (Second-Class Citizen) [-5].

Quirks, Features, and Taboo Traits: Sexually attracted to humans as well as dolphins [-1].

Racially Learned Skills: Acrobatics at DX [4]; Meteorology at IQ [2]; Navigation at IQ [4].

Customization Notes: Dolphins do not need the Swimming skill; they can automatically swim at their normal Move rate. They can learn Endurance Swimming and Speed Swimming.

Orca   291 points

Genlifted orcas average 24 feet long and weigh 8,000 lbs. They eat 100 lbs./day, mostly fish. Their bodies lack manipulatory organs, but through contact with human civilization they virtually all have access to CICADA units (see p. 49).

Attributes: ST +40 (No Fine Manipulators, -40%) [111]; DX +2 [20]; IQ -2 [-15]; HT +5 [60].

Advantages: 3D Spatial Sense [10]; Acute Hearing +3 [6]; Alertness +4 [20]; Animal Empathy [5]; Combat Reflexes [15]; Enhanced Move 1.5 (Swimming) [15]; Extra Hit Points +10 [50]; Independently Focusable Eyes [15]; Less Sleep 1 [3]; Nictating Membrane 1 [10]; Oxygen Storage (30 minutes) [12]; Peripheral Vision [15]; Pressure Support (Up to 100 atmospheres) [10]; Sonar Vision (Only in water, -30%) [18]; Single-Minded [5]; Striker (Ram) [5]; Ultrasonic Speech [25].

Disadvantages: Aquatic [-40]; Chummy [-5]; Dull [-1]; Horizontal [-10]; Inconvenient Size [-10]; Increased Life Support 2 [-20]; No Manipulators (Mitigated, -60%) [-20]; Mute (Mitigated, -60%) [-10]; Short Lifespan 1 [-10]; Social Stigma (Second-Class Citizen) [-5]; Staid [-1].

Racially Learned Skills: Tactics at IQ+2 [8].

Customization Notes: Orcas do not need the Swimming skill; they can automatically swim at their normal Move rate. They can learn Endurance Swimming and Speed Swimming.

CHARACTER ORIGINS

Character origin templates reflect the knowledge and skills gained from growing up in a specific background. Most character origins can be chosen for any species. Technically, origins are not full templates but lenses; they don't specify attribute values but provide advantages, disadvantages, and skills that can be added onto a full template. The use of character origin templates is strongly recommended; a GM may wish to charge points for Unusual Background for a character who doesn't fit any of these origins. However, there's nothing wrong with changing some of the details of a character origin template, with GM approval.

Colonial (Pioneer)   10 points

Skills: Agronomy (M/A) IQ [2]-10; Aquaculture (M/A) IQ [2]-10; Driving (Hovercraft) (P/A) DX [2]-10; Fishing (M/E) IQ [1]-10; Powerboat (P/A) DX [2]-10; Swimming (P/E) DX [1]-10.

Colonial (Urban)   10 points

Skills: Administration (M/A) IQ [2]-10; Computer Operation (M/E) IQ [1]-10; Driving (Hovercraft) (P/A) DX [2]-10; Scrounging (M/E) IQ+1 [2]-11; Streetwise (M/A) IQ [2]-10; Swimming (P/E) DX [1]-10.

Earth Orbit   10 points

Skills: Computer Operation (M/E) IQ+1 [2]-11; Electronics Operation (Any) (M/A) IQ [2]-10; Freefall (P/A) DX+1 [4]-11; Mechanic (Small gadgets) (M/A) IQ [2]-10.

Free Zone (Urban)   10 points

Skills: Agronomy (M/A) IQ [2]-10; Computer Operation (M/E) IQ [1]-10; Driving (Hovercraft) (P/A) DX [2]-10; Electronics Operation (Security systems) (M/A) IQ [2]-10; Mechanics (Small gadgets) (M/A) IQ [2]-10; Scrounging (M/E) IQ [1]-10.

Free Zone (Wasteland)   10 points

Skills: Driving (Hovercraft) (P/A) DX [2]-10; Guns (Rifle) (P/E) DX+1 [1]-11; Scrounging (M/E) IQ [1]-10; Stealth (P/A) DX [2]-10; Streetwise (M/A) IQ [2]-10; Survival (any) (M/A) IQ [2]-10.

GEO   10 points

Skills: Administration (M/A) IQ [2]-10; Computer Operation (M/E) IQ [1]-10; Law (M/H) IQ [4]-10; Politics (M/A) IQ [2]-10; Savoir-Faire (M/E) IQ [1]-10.

Hybrid Reservation (Cat, Silva)   10 points

Skills: First Aid (M/E) IQ [1]-10; Orienteering (M/A) IQ [2]-10; Scrounging (M/E) IQ [1]-10; Stealth (P/A) DX [2]-10; Survival (Jungle) (M/A) IQ [2]-10; Tracking (M/A) IQ [2]-10.

Incorporate   10 points

Skills: Administration (M/A) IQ [2]-10; Computer Operation (M/E) IQ [1]-10; Diplomacy (M/H) IQ [4]-10; Merchant (M/A) IQ [2]-10; Savoir-Faire (M/E) IQ [1]-10.

Lunar   10 points

Skills: Computer Operation (M/E) IQ+1 [2]-11; Mechanic (Small gadgets) (M/A) IQ+1 [4]-11; Vacc Suit (M/A) IQ+1 [4]-11.
Quirks, Features, and Taboo Traits: Home Gravity 0.2 G [0].

Mars Colony   10 points

Skills: Computer Operation (M/E) IQ+1 [2]-11; Driving (Tracked vehicles) (P/A) DX [2]-10; Mechanic (Small gadgets) (M/A) IQ+1 [4]-11; Vacc Suit (M/A) IQ [2]-10.
Quirks, Features, and Taboo Traits: Home Gravity 0.4 G [0].

Native (Aquaform)   0 points

Disadvantages: Social Stigma (Minority Group) [-10].
Skills: Aquaculture (M/A) IQ [2]-10; Boating (P/A) DX [2]-10; Fishing (M/E) IQ [1]-10; Meteorology (M/A) IQ [2]-10; Naturalist (M/H) IQ-2 [1]-8; Survival (Island/beach) (M/A) IQ [2]-10.

Oceanic (Dolphin, Orca)   10 points

Skills: Bard (M/A) IQ-1 [1]-9; Fishing (M/E) IQ+2 [4]-12; Herding (P/A) DX+4 [2]-14; Naturalist (M/H) IQ-2 [1]-8; Survival (Oceanic) (M/A) IQ [2]-10.

Urban   10 points

Skills: Administration (M/A) IQ [2]-10; Computer Operation (M/E) IQ [1]; Driving (Hovercraft) (P/A) DX [2]-10; Merchant (M/A) IQ [2]-10; Scrounging (M/E) IQ [1]-10; Streetwise (M/A) IQ [2]-10.

Home Gravity

GURPS provides detailed rules for what happens when people enter environments with gravity higher or lower than in their native environments. A campaign set on Poseidon needs only part of those rules, to cover adventurers from the Moon, Mars, or a freefall environment coming to Poseidon's surface. GMs planning to run adventures in outer space will want *GURPS Space*, which has the full rules (pp. S97-100).

Martian natives (native gravity 0.38 G) who come to Poseidon are at -3 to DX and -1 to IQ and HT. The G-Experience advantage reduces the DX penalty to -1.

Lunar natives (native gravity 0.17 G) who come to Poseidon are at -4 to DX and -2 to IQ and HT. The G-Experience advantage reduces the DX penalty to -2.

Natives of freefall environments (native gravity 0 G) who come to Poseidon are at -5 to DX and -2 to IQ and HT. The G-Experience advantage reduces the DX penalty to -2. However, spacers (genies adapted to an outer space environment) benefit from Improved G-Tolerance; they are at -2 to DX and -1 to IQ and HT. If they also have G-Experience, reduce the DX penalty to -1.

PROFESSIONS

Professional templates are a combination of related skills that provide a basis for pursuing some occupation. They also include recommended attribute levels and possibly some advantages and disadvantages. The point costs are kept somewhat low, since most Poseidonians have more than one professional skill. Most templates have two versions, basic and advanced; the advanced version usually includes the benefits of the basic version. Sometimes, occupations are best represented by a combination of templates: two basic templates for an everyday occupation, one advanced template for a specialist, one advanced and one basic template for a skilled professional, two advanced templates or an advanced template and three basic templates for an elite professional.

The use of professional templates is completely optional. A player may combine any skills, advantages, and disadvantages that reflect a character concept, as long as the total point cost is within the target range for the campaign. The use of templates is simply a design shortcut; it does not reduce point costs.

The Job Table (p. 39) suggests some combinations of professional templates appropriate for various roles in Poseidonian society; GMs may add to this list, or players may suggest combinations that fit their interests.

Note: In these templates, attributes are specified without racial modifiers. Add the racial modifiers to attain the actual attribute value.

Administrator

Administrators usually work for governments such as the GEO or an Incorporate state. Alternatively, they may work for nonprofit organizations such as universities or churches. The basic package is also suitable for someone privately employed or self-employed who needs to deal with bureaucracies frequently.

Basic Template   30 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 10 [0].
Advantages: One of Administrative Rank 1 [5]; Charisma +1 [5]; or Status 1 [5].
Primary Skills: Administration (M/A) IQ+1 [4]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-11; Law (M/H) IQ [4]-11; Writing (M/A) IQ [2]-11; and two of Bard, Leadership, or Politics (M/A) IQ [2]-11, or Diplomacy (M/H) IQ-1 [2]-10.

Advanced Template   70 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Advantages: Administrative Rank 3 [15]; Comfortable [10]; Status 1 [0]*.
   * Free from Administrative Rank.
Primary Skills: Administration (M/A) IQ+4 [10]-16 and one of Leadership or Politics (M/A) IQ+1 [4]-13, or Diplomacy (M/H) IQ [4]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-12; Law (M/H) IQ [4]-12; Writing (M/A) IQ [2]-12; and two of Bard, Leadership, Politics, or Teaching (M/A) IQ [2]-12, or Diplomacy (M/H) IQ-1 [2]-11.
Background Skills: Savoir-Faire (M/E) IQ+2 [0]-14*.
   * Free from Status.

Athlete

Poseidon has a number of semiprofessional sports teams and leagues, especially for the planet's native sport, hydroshot. Most athletes have other jobs and train and compete in their spare time.

Basic Template   30 points
Attributes: ST 11 [10]; DX 11 [10]; IQ 10 [0]; HT 10 [0].
Advantages: Fit [5].
Disadvantages: Code of Honor (Sportsman) [-5].
Primary Skills: Either: Sports (Hydroshot) (P/A) DX+2 [8]-13 and Swimming (P/E) DX+1 [2] 12; Boating (P/A) DX+2 [8]-13 and Navigation (M/H) IQ-1 [2]-9; or 10 points in skills appropriate to any other sport.

Advanced Template   85 points
Attributes: ST 12 [20]; DX 12 [20]; IQ 10 [0]; HT 11 [10].
Advantages: Charisma +1 [5]; Very Fit [15].
Disadvantages: Code of Honor (Sportsman) [-5]; Compulsive Behavior (Physical exercise) [-5].
Primary Skills: Either: Sports (Hydroshot) (P/A) DX+3 [16]-15; and Swimming (P/E) DX+1 [2]-13; Boating (P/A) DX+2 [8]-14 and Navigation (M/H) IQ+3 [10]-13; or 18 points in skills appropriate to any other sport.
Secondary Skills: Brawling (P/E) DX [1]-12; First Aid (M/E) IQ+1 [2]-11; Leadership (M/A) IQ+1 [2]-11*; Tournament Law (M/E) IQ+1 [2]-11.
   * Includes +1 from Charisma.

Under the Hood: How Templates Work Together

In the creation of a *GURPS Blue Planet* character, choosing a racial template is mandatory; choosing a character origin template is strongly recommended; choosing professional templates is optional. Players may always spend a comparable number of points on their own choice of advantages, disadvantages, and skills.

When using multiple templates, first set the attributes to the highest value required in any professional template. Then apply racial attribute modifiers to achieve the final attribute scores. Similarly, if a skill is listed in more than one template, use the highest value listed for the duplicated skill.

In choosing optional skills, advantages, and disadvantages, it is advantageous to pick different ones from each template, but not at the expense of destroying a character concept. Any feature of a template may be changed to reflect a character concept more accurately, with GM approval.

Burglar

Burglars specialize in taking property from unoccupied quarters, rather than from potentially dangerous living victims. Their skills emphasize stealth and defeating security systems. In Poseidon's high-tech environment, this means primarily electronic and photonic systems, but old-fashioned mechanicals can't be overlooked. An experienced burglar will have enough combat skills to guard his loot or take out a watchman.

Basic Template   **30 points**

Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 10 [0].
Advantages: Contact (Fence) [2].
Disadvantages: Secret [-10].
Primary Skills: Electronics Operation (Security Systems) (M/A) IQ+1 [4]-12; Stealth (P/A) DX+1 [4]-12.
Secondary Skills: Climbing (P/A) DX [2]-11; Fast-Talk (M/A) IQ-1 [1]-10; Holdout (M/A) IQ [2]-11; Lockpicking (M/A) IQ [2]-11; Streetwise (M/A) IQ-1 [1]-10; Traps (M/A) IQ [2]-11.

Advanced Template   **80 points**

Attributes: ST 10 [0]; DX 13 [30]; IQ 12 [20]; HT 10 [0].
Advantages: Alertness +1 [5]; Composed [5]; Contact (Fence) [2].
Disadvantages: Secret [-10].
Primary Skills: Electronics Operation (Security Systems) (M/A) IQ+2 [6]-14; Stealth (P/A) DX+1 [4]-14.
Secondary Skills: Climbing (P/A) DX [2]-13; Demolition (M/A) IQ [2]-12; Fast-Talk (M/A) IQ [2]-12; Holdout (M/A) IQ [2]-12; Lockpicking (M/A) IQ [2]-12; Research (M/A) IQ-1 [1]-10; Streetwise (M/A) IQ [2]-12; Traps (M/A) IQ [2]-12.
Background Skills: Guns (Pistol) (P/E) DX+1 [1]-15*; Judo (P/H) DX-2 [1]-11; Knife (P/E) DX [1]-13.
* Includes +2 for IQ 12.

Cetacean Military

Cetaceans serve in special marine operations units in both the GEO and the Incorporate militaries. Their roles are sufficiently different from those given to human combatants to require special-purpose templates.

Basic Template   **30 points**

Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 11 [10].
Advantages: Fit [5]; Military Rank 0 [0].
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Endurance Swimming (P/A) HT+1 [4]-12; Gunner (P/A) DX+1 [4]-11*.
  * *Not* adjusted for IQ; if IQ after racial modifier is 10 or higher, increase Gunner skill to reflect this.
Secondary Skills: Interspec (M/H) IQ [4]-11; Savoir-Faire (Military) (M/E) IQ [1]-11; Tactics (M/H) IQ-1 [2]-10.

Advanced Template   **65 points**

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 11 [10].
Advantages: Fit [5]; Military Rank 2 [10]; Status 1 [0].
Disadvantages: Duty (12 or less) [-10].

Primary Skills: Endurance Swimming (P/A) HT+1 [4]-12; Gunner (P/A) DX+2 [8]-12*; Leadership (M/A) IQ+1 [4]-13.
  * *Not* adjusted for IQ; if IQ after racial modifier is 10 or higher, increase Gunner skill to reflect this.
Secondary Skills: Demolition (M/A) IQ [2]-12; Interspec (M/H) IQ [4]-12; Savoir-Faire (Military) (M/E) IQ [1]-12; Speed Swimming (P/H) HT-2 [1]-9; Tactics (M/H) IQ [4]-12; Underwater Demolition (M/A) IQ [2]-12.
Background Skills: Savoir-Faire (M/E) IQ+2 [0]-14.

Colonist

A large part of Poseidon's economy is based on the products of the land and sea. The colonist template provides the skills needed to produce them. To be self-reliant, colonists must be generalists, with a variety of utilitarian skills.

Basic Template   **20 points**

Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 10 [0].
Advantages: Fit [5].
Disadvantages: Struggling [-10].
Primary Skills: One of Fishing (M/E) IQ+3 [6]-13, or Agronomy or Aquaculture (M/A) IQ+2 [6]-12; and one of Fishing (M/E) IQ+2 [4]-12, Agronomy or Aquaculture (M/A) IQ+1 [4]-11, and Animal Handling (M/H) IQ [4]-10.
Secondary Skills: First Aid (M/E) IQ [1]-10; Mechanic (Fuel cell/electric motor) (M/A) IQ [2]-10; Meteorology (M/A) IQ+1 [4]-11; Survival (M/A) IQ+1 [4]-11; and one of Boating, Driving (Construction equipment), Driving (Hovercraft), or Powerboat (P/A) DX [2]-10.
Background Skills: Swimming (P/E) DX+1 [2]-11.

Advanced Template   **60 points**

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Advantages: Fit [5].
Primary Skills: One of Fishing (M/E) IQ+3 [6]-15, or Agronomy or Aquaculture (M/A) IQ+2 [6] 14; and one of Fishing (M/E) IQ+2 [4]-14, Agronomy or Aquaculture (M/A) IQ+1 [4]-13, and Animal Handling (M/H) IQ [4]-12.
Secondary Skills: Administration (M/A) IQ-1 [1]-11; Cooking (M/E) IQ [1]-12; First Aid (M/E) IQ [1]-12; Mechanic (Fuel cell/electric motor) (M/A) IQ-1 [1]-11; Meteorology (M/A) IQ [2]-12; Survival (M/A) IQ [2]-12; Veterinary (M/H) IQ-1 [2]-11; and two of Boating, Driving (Construction equipment), Driving (Hovercraft), or Powerboat (P/A) DX+1 [4]-11.
Background Skills: Leadership (M/A) IQ-1 [1]-11; Swimming (P/E) DX+3 [6]-13.

Customization Notes: Cetaceans may add Herding (P/A) to the list of primary skill options in either the basic or the advanced template.

Diplomat

In the chaos of Poseidon's politics, skilled negotiators are essential. Judgment and persuasiveness can avert a war and make a career for an ambassador, consul, or attaché.

Basic Template   **35 points**

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].

Advantages: Administrative Rank 2 [10]; Status 1 [0]*.
  * Free from Administrative Rank.
Disadvantages: Duty (Nonhazardous, 12 or less) [-5].
Primary Skills: Administration (M/A) IQ [2]-12; Diplomacy (M/H) IQ [4]-12.
Secondary Skills: History (M/H) IQ-1 [1]-11; Language (M/A) IQ-1 [1]-11; Research (M/A) IQ-1 [1]-11; Writing (M/A) IQ-1 [1]-11.
Background Skills: Savoir-Faire (M/E) IQ+2 [0]-14*.
  * Free from Status.

Advanced Template — 105 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [30]; HT 10 [0].
Advantages: Administrative Rank 5 [25]; Charisma +1 [5]; Comfortable [10]; Diplomatic Immunity [20]; Status 2 [0]*.
  * Free from Administrative Rank.
Disadvantages: Duty (Nonhazardous, 15 or less) [-10].
Primary Skills: Acting (M/A) IQ [2]-13; Administration (M/A) IQ+1 [4]-14; Area Knowledge (Country) (M/E) IQ [1]-13; Bard (M/A) IQ [1]-13*; Diplomacy (M/H) IQ+1 [6]-14; Language (M/A) IQ [2]-13.
  * Includes +1 from Charisma.
Secondary Skills: Detect Lies (M/H) IQ-1 [2]-12; History (M/H) IQ-2 [1]-11; Intelligence Analysis (M/H) IQ-2 [1]-11; Law (M/H) IQ-2 [1]-11; Research (M/A) IQ-1 [1]-12; Writing (M/A) IQ-1 [1]-12.
Background Skills: Carousing (P/A) HT [2]-10; Savoir-Faire (M/E) IQ+2 [0]-15*.
  * Free from Status.

Doctor

Poseidon is hazardous, with natural dangers, industrial accidents and other human errors, and sporadic violence. Doctors, nurses, and paramedics are in great demand. Medical technology is highly developed, but not available everywhere; very basic healing skills are still important. Doctors also perform many sorts of biomods (see pp. 34-37).

Basic Template — 30 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Disadvantages: Vow (Medical ethics) [-5].
Primary Skills: Diagnosis (M/H) IQ [4]-12; First Aid (M/E) IQ+2 [4]-14.
Secondary Skills: Chemistry (M/H) IQ-2 [1]-10; Physician (M/H) IQ-1 [2]-11; Physiology (M/VH) IQ-2 [2]-10; Research (M/A) IQ-1 [1]-11.
Background Skills: Computer Operation (M/E) IQ [1]-12.

Advanced Template — 75 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 14 [45]; HT 10 [0].
Advantages: Comfortable [10]; Status 1 [5].
Disadvantages: Vow (Medical ethics) [-5].
Primary Skills: Diagnosis (M/H) IQ [4]-14; Physician (M/H) IQ [4]-14; and Genetics (Genetic medicine, Earth life-forms) or Surgery (M/VH) IQ-1 [4]-13.
Secondary Skills: Biochemistry (M/VH) IQ-2 [2]-12; Chemistry (M/H) IQ-2 [1]-12; Electronics Operation (Medical) (M/A) IQ-1 [1]-13; Physiology (M/VH) IQ-2 [2]-12; Research (M/A) IQ-1 [1]-13.

Background Skills: Computer Operation (M/E) IQ [1]-14; Savoir-Faire (M/E) IQ+2 [0]-16.

Entertainer

Entertainers on Poseidon are usually amateurs; between people making their own entertainment and elaborately produced Earth imports, there's not much room to earn a living. Still, it's a good way to make extra money and meet people, especially for those who prefer mobility to settling down. And there's always the hope of becoming one of Poseidon's star performers or even selling to the Earth market.

Basic Template — 25 points

Attributes: ST 10 [0]; DX 11 [10]; IQ 10 [0]; HT 11 [10].
Advantages: Attractive [5] or Charisma +1 [5].
Disadvantages: Struggling [-10].
Primary Skills: Cyberaxe or Musical Instrument (M/H) IQ+2 [8]-12; Dancing (P/A) DX+2 [8]-13; or Singing (P/E) HT+3 [8]-14.
Secondary Skills: Savoir-Faire (M/E) IQ+1 [2]-11; Merchant or Streetwise (M/A) IQ [2]-10; or Sex Appeal (M/A) HT [2]-11.

Advanced Template (Dancer) — 75 points

Attributes: ST 10 [0]; DX 13 [30]; IQ 11 [10]; HT 11 [10].
Advantages: Attractive [5]; Fit [5].
Primary Skills: Dancing (P/A) DX+2 [8]-15.
Secondary Skills: Acrobatics (P/H) DX-2 [1]-11; Performance (M/A) IQ+1 [4]-12; and Savoir-Faire (M/E) IQ+1 [2]-12, Merchant or Streetwise (M/A) IQ [2]-11, or Sex Appeal (M/A) HT [2]-11.

Advanced Template (Musician) — 75 points

Attributes: ST 10 [0]; DX 11 [10]; IQ 12 [20]; HT 11 [10].
Advantages: Attractive [5]; Charisma +1 [5]; and Musical Ability +1 [1].
Primary Skills: Singing (P/E) HT+4 [8]-15*, or Cyberaxe or Musical Instrument (M/H) IQ+3 [8]-15*; and Poetry (M/A) IQ+2 [6]-14, or Musical Composition (M/H) IQ+2 [6]-14*.
Secondary Skills: Electronics Operation (Audio) (M/E) IQ [1]-12; Musical Notation (M/E) IQ [1]-12; Performance (M/A) IQ+1 [4]-13; Singing (P/E) HT+2 [2]-13* or Cyberaxe or Musical Instrument (M/H) IQ [2]-12*; and Savoir-Faire (M/E) IQ+1 [2]-13, Merchant or Streetwise (M/A) IQ [2]-12, or Sex Appeal (M/A) HT [2]-11.
  * Includes +1 from Musical Ability.

Executive

Executives work for corporations or other relatively large businesses. Junior executives have primarily administrative responsibilities; senior executives help to set policy. Executive jobs carry more economic and social benefits than other types of employment, but also more obligations.

Basic Template — 40 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 10 [0].
Advantages: Administrative Rank 3 [15]; Comfortable [10]; Status 1 [0]*.
  * Free from Administrative Rank.

Disadvantages: Duty (All the time, nonhazardous) [-10].
Primary Skills: Administration (M/A) IQ+1 [4]-12; Diplomacy (M/H) IQ+1 [6]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-11; Research (M/A) IQ [2]-11; Writing (M/A) IQ [2]-11.
Background Skills: Savoir-Faire (M/E) IQ+2 [0]-13*.
* Free from Status.

Advanced Template   80 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Advantages: Administrative Rank 5 [25]; Status 3 [0]*; Wealthy [20].
* Free from Administrative Rank and Wealthy.
Disadvantages: Duty (All the time, nonhazardous) [-10].
Primary Skills: Administration (M/A) IQ+2 [6]-14; Diplomacy (M/H) IQ+1 [6]-13.
Secondary Skills: Computer Operation (M/E) IQ [1]-12; Economics (M/H) IQ-1 [2] 11; Law (M/H) IQ-1 [2]-11; Merchant (M/A) IQ [2]-12; Research (M/A) IQ [2]-12; Writing (M/A) IQ [2]-12.
Background Skills: Savoir-Faire (M/E) IQ+2 [0]-14* and one of Boating or Sports (P/A) DX [2]-10 or Carousing (P/A) HT [2]-10.
* Free from Status.

Gangster

Gangsters are to crime what executives are to business. They have to be able to protect themselves, but their social skills are at least as important as their combat skills – more important, for the ones who want to move up. Recruitment for this career is still personal, nearly to the point of feudalism.

Basic Template   30 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 10 [0].
Advantages: Composed [5]; Patron (Crime boss; 9 or less) [10].
Disadvantages: Duty (9 or less) [-5]; Secret [-10].
Primary Skills: Guns (Pistol) (P/E) DX+1 [1]-12*; Streetwise (M/A) IQ+1 [4]-12.
* Includes +1 from IQ 11.
Secondary Skills: Accounting (M/H) IQ-1 [2]-10; Shadowing (M/A) IQ [2]-11; and either Administration or Leadership (M/A) IQ-1 [1]-10.

Advanced Template   70 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 13 [30]; HT 10 [0].
Advantages: Charisma +1 [5]; Comfortable [10]; Composed [5]; Patron (Crime boss; 12 or less) [20].
Disadvantages: Duty (12 or less) [-10]; Secret [-20].
Primary Skills: Area Knowledge (Small city or city district) (M/E) IQ+1 [2]-14; Guns (Pistol) (P/E) DX+2 [1]-13*; Leadership (M/A) IQ+1 [2]-14**; Shadowing (M/A) IQ [2]-13; Streetwise (M/A) IQ+1 [4]-14.
* Includes +2 from IQ 13.
** Includes +1 from Charisma.
Secondary Skills: Accounting (M/H) IQ-1 [2]-12; Administration (M/A) IQ-1 [1]-12; Diplomacy (M/H) IQ-1 [2]-12; Holdout (M/A) IQ-1 [1]-12; Intelligence Analysis (M/H) IQ-1 [2]-12.
Background Skill: Law (M/H) IQ-2 [1]-11.

Investigator

Investigators include police detectives, private security forces, and freelance private eyes. An investigator's primary asset is his understanding of the criminal mind, supported by a variety of specialized skills.

Basic Template   30 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 10 [0].
Advantages: Alertness +1 [5].
Primary Skills: Criminology (M/A) IQ+1 [4]-12; Shadowing (M/A) IQ+1 [4]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-11; Forensics (M/H) IQ [4]-11; Research (M/A) IQ [2]-11.

Advanced Template   60 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [30]; HT 10 [0].
Advantages: Alertness +1 [5].
Primary Skills: Criminology (M/A) IQ+2 [6]-15; Forensics (M/H) IQ [4]-13; Research (M/A) IQ+1 [4]-14.
Secondary Skills: Disguise (M/A) IQ-1 [1]-12; Electronics Operation (Sensors) (M/A) IQ-1 [1]-12; Fast-Talk (M/A) IQ-1 [1]-12; Forgery (M/H) IQ-1 [2]-12; Holdout (M/A) IQ-1 [1]-12; Lockpicking (M/A) IQ-1 [1]-12; Shadowing (M/A) IQ-1 [1]-12.
Background Skills: Computer Operation (M/E) IQ [1]-13; Law (M/H) IQ-2 [1]-11; Streetwise (M/A) IQ-1 [1]-12.

Law Enforcer

Poseidon has numerous law enforcement agencies: the GEO marshals and their support forces, the local forces of various cities, and Native Patrol forces. Jurisdiction is often disputable, and the more thinly settled areas have very little law enforcement. Whatever his beat, a police officer must rely on his own resources.

Basic Template   30 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 11 [10].
Advantages: Administrative Rank 1 [5]; Alertness +1 [5]; Legal Enforcement Powers [5].
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Area Knowledge (His beat) (M/E) IQ+2 [4]-12.
Secondary Skills: Administration (M/A) IQ-1 [1]-9; Driving (Hovercraft) (P/A) DX [2]-10; First Aid (M/E) IQ [1]-10; Guns (Pistol) (P/E) DX+1 [1]-11*; Interrogation (M/A) IQ [2] 10; Law (M/H) IQ-2 [1]-8; Shortsword (P/A) DX-1 [1]-9; Wrestling (P/A) DX [2]-10.
* Includes +1 from IQ 11.

Advanced Template   90 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 11 [10].
Advantages: Administrative Rank 3 [15]; Alertness +1 [5]; Composed [5]; Legal Enforcement Powers [10]; Status 1 [0]*.
* Free from Administrative Rank.
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Guns (P/E) DX+2 [2]-13*; Streetwise (M/A) IQ+2 [6]-13.
* Includes +1 from IQ 11.

Secondary Skills: Administration (M/A) IQ [2]-11; Area Knowledge (Community) (M/E) IQ+1 [2]-12; Body Language (M/H) IQ [2]-11; Criminology (M/A) IQ+1 [4]-12; Driving (Hovercraft) (P/A) DX+1 [4]-12; First Aid (M/E) IQ [1]-11; Interrogation (M/A) IQ [2]-11; Law (M/H) IQ-1 [2]-10; Leadership (M/A) IQ [2]-11; Shortsword (P/A) DX [2]-11; and Wrestling (P/A) DX+1 [4]-12 or Judo (P/H) DX [4]-11.

Muscle

An illegal enterprise of any size needs to provide its own security, not only against the police but also against its competitors. There's always a job for strong, tough people who follow orders and don't worry about legalities. And if some of them die, there are always more to replace them . . .

Basic Template   30 points
Attributes: ST 11 [10]; DX 11 [10]; IQ 9 [-10]; HT 11 [10].
Advantages: High Pain Threshold [10].
Disadvantages: Code of Honor (Gang) [-5]; Secret [-5]; Status -1 [-5].
Primary Skills: Brawling (P/E) DX+1 [2]-12.
Secondary Skills: Guns (P/E) DX [1]-11; Intimidation (M/A) IQ+2 [6]-11; Streetwise (M/A) IQ+2 [6]-11.

Advanced Template   80 points
Attributes: ST 11 [10]; DX 13 [30]; IQ 10 [0]; HT 11 [10].
Advantages: Combat Reflexes [15]; Comfortable [10]; High Pain Threshold [10].
Disadvantages: Code of Honor (Gang) [-5]; Secret [-20].
Primary Skills: Brawling (P/E) DX+2 [4]-14 and Guns (P/E) DX+2 [2]-14*.
 * Includes +1 from IQ 10.
Secondary Skills: Intimidation (M/A) IQ+2 [6]-12; Stealth (P/A) DX [1]-12; Streetwise (M/A) IQ+3 [6]-12; and Knife (P/E) DX [1]-13, or Axe/Mace or Shortsword (P/A) DX-1 [1]-12.

Naval Crew

Naval forces are specialists in vehicle operation and vehicular combat. They serve both on surface ships, usually hydrofoils, and on submersibles. Since nearly all of Poseidon's surface is water, the navy is the most important branch of the military.

Basic Template   20 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 10 [0].
Advantages: Fit [5]; Military Rank 0 [0].
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Computer Operation (M/E) IQ+1 [2]-12; Sailor (M/A) IQ+1 [4]-12; Seamanship (M/E) IQ+1 [2]-12; and one of Gunner (P/A) DX+1 [2]-11* or Armoury, Electronics Operation, or Mechanic (M/A) IQ+1 [2]-12.
 * Includes +1 from IQ 11.
Secondary Skills: Swimming (P/E) DX+1 [2]-11; and Boating or Powerboat (P/A) DX [2]-10.
Background Skills: Savoir-Faire (Military) (M/E) IQ [1]-11.

Advanced Template   60 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [30]; HT 10 [0].

Advantages: Fit [5]; Military Rank 3 [15]; Status 1 [0]*.
 * Free from Military Rank.
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Sailor (M/A) IQ [2]-13; Seamanship (M/E) IQ [1]-13; Shiphandling (M/H) IQ [4]-13; and one of Gunner (P/A) DX+2 [2]-12* or Electronics, Engineer, Navigation, Shipbuilding, or Traffic Analysis (M/H) IQ-1 [2]-12.
 * Includes +2 from IQ 13.
Secondary Skills: Administration (M/A) IQ-1 [1]-12; Computer Operation (M/E) IQ [1]-13; Leadership (M/A) IQ-1 [1]-12; Mathematics (M/H) IQ-2 [1]-11; Meteorology (M/A) IQ-1 [1]-12; Swimming (P/E) DX+1 [2]-11; Tactics (M/H) IQ-2 [1]-11; Writing (M/A) IQ-1 [1]-12.
Background Skills: Law (M/H) IQ-2 [1]-11; Savoir-Faire (M/E) IQ+2 [0]-15*; Savoir-Faire (Military) (M/E) IQ [1]-13.
 * Free from Status.

Pilot

Air travel on Poseidon accounts for the great majority of long-range passenger traffic and a substantial minority of freight, including rapid deliveries and lightweight cargos. Pilots also play an important role in military operations.

Basic Template   30 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 10 [0].
Primary Skills: Aviation (M/A) IQ+1 [4]-12; Piloting (P/A) DX+1 [4]-12.
Secondary Skills: Navigation (M/H) IQ-1 [2]-10.

Advanced Template   60 points
Attributes: ST 10 [0]; DX 13 [30]; IQ 11 [10]; HT 10 [0].
Primary Skills: Piloting (P/A) DX+1 [4]-14.
Secondary Skills: Aviation (M/A) IQ+1 [4]-12; Electronics Operation (Sensors) (M/A) IQ+1 [4]-12; Meteorology (M/A) IQ [2]-11; Navigation (M/H) IQ+1 [6]-12.

Scholar

Scholars generally earn their living as teachers or writers, but they may also act as consultants or researchers. Their specialized knowledge is often unexpectedly valuable.

Basic Template   30 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Disadvantages: Code of Honor (Scholar) [-5].
Primary Skills: Research (M/A) IQ [2]-12; one of Bard, Teaching, or Writing (M/A) IQ [2]-12; and one of Anthropology, Archaeology, Economics, History, Literature, Philosophy, or Theology (M/H) IQ+2 [8]-14, or Appreciate Beauty or Linguistics (M/VH) IQ [8]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-12; Language (M/A) IQ-1 [1]-11; and one of Anthropology, Archaeology, Economics, History, Literature, Philosophy, Strategy, Tactics, or Theology (M/H) IQ-2 [1]-10, or Appreciate Beauty or Linguistics (M/VH) IQ-3 [1]-9.

Customization Notes: A researcher who isn't scrupulous about the ethics of research will not have a Code of Honor, but will have a Secret worth -5 points, or -10 points for serious infringements such as plagiarism.

Advanced Template   80 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 14 [45]; HT 10 [0].
Advantages: Comfortable [10]; Status 1 [5]; Tenure [5].
Disadvantages: Code of Honor (Scholar) [-5].
Primary Skills: Research (M/A) IQ [2]-14; Language (M/A) IQ [2]-14; one of Bard, Teaching, or Writing (M/A) IQ [2]-14; and one of Anthropology, Archaeology, Economics, History, Literature, Philosophy, Strategy, Tactics, or Theology (M/H) IQ+2 [8]-16, or Appreciate Beauty or Linguistics (M/VH) IQ [8]-14.
Secondary Skills: Computer Operation (M/E) IQ [1]-14; Language (M/A) IQ-1 [1]-13; one of Bard, Photography, Teaching, Video Production, or Writing (M/A) IQ-1 [1]-13; and one of Anthropology, Archaeology, Economics, History, Literature, Philosophy, Strategy, Tactics, or Theology (M/H) IQ-2 [1]-12, or Appreciate Beauty or Linguistics (M/VH) IQ-3 [1]-11.
Background Skills: Language (native) IQ+1 [1]-15; Law (Intellectual property) (M/H) IQ+3/IQ-3 [1]-11/17; Savoir-Faire (M/E) IQ [0]-16*.
   * Free from Status.

Customization Notes: A researcher who isn't scrupulous about the ethics of research will not have a Code of Honor, but will have a Secret worth -5 points, or -10 points for serious infringements such as plagiarism.

Scientist

Scientists in many disciplines find a wealth of research topics on Poseidon. Corporations, governments, universities, or private foundations may support a competent researcher.

Basic Template   25 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Disadvantages: Code of Honor (Scientist) [-5].
Primary Skills: Electronics Operation (Laboratory instrumentation or sensors) (M/A) IQ [2]-12; and one of Hydrology, Meteorology, Planetology, or Xenobiology (M/A) IQ+1 [4]-13, or Astronomy, Botany, Chemistry, Ecology, Geology, Oceanography, Physics, Planetology, or Zoology (M/H) IQ [4]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-12; Computer Programming (M/H) IQ-1 [2]-11; Research (M/A) IQ-1 [1]-11.

Customization Note: A researcher who isn't scrupulous about the ethics of research will not have a Code of Honor, but will have a Secret worth -5 points, or -10 points for serious infringements such as plagiarism.

Advanced Template   60 points

Attributes: ST 10 [0]; DX 10 [0]; IQ 14 [45]; HT 10 [0].
Disadvantages: Code of Honor (Scientist) [-5].
Primary Skills: Electronics Operation (Laboratory instrumentation or sensors) (M/A) IQ [2]-14; Research (M/A) IQ [2]-14; and one of Hydrology, Meteorology, Planetology, or Xenobiology (M/A) IQ+3 [8]-17, Astronomy, Botany, Chemistry, Ecology, Geology, Physics, Oceanography, Planetology, or Zoology (M/H) IQ+2 [8]

-16, or Biochemistry, Genetics, Nuclear Physics, or Physiology (M/VH) IQ [8]-14.
Secondary Skills: Administration (M/A) IQ-1 [1]-13; Computer Operation (M/E) IQ [1]-14; Computer Programming (M/H) IQ-2 [1]-12; Mathematics (M/H) IQ-2 [1]-12; Teaching (M/A) IQ-1 [1]-13; Writing (M/A) IQ -1 [1]-13.
Background Skills: Any two of Hydrology, Meteorology, Planetology, or Xenobiology (M/A) IQ-1 [1]-13, or Astronomy, Botany, Chemistry, Ecology, Geology, Oceanography, Physics, Planetology, or Zoology (M/H) IQ-2 [1]-12.

Customization Note: A researcher who isn't scrupulous about the ethics of research will not have a Code of Honor, but will have a Secret worth -5 points, or -10 points for serious infringements such as plagiarism.

Soldier

Even in a high-tech world, ground combat skills remain important. On Poseidon, many "soldiers" are actually marines; this template encompasses only the combat skills for this role.

Basic Template   20 points

Attributes: ST 10 [0]; DX 11 [10]; IQ 10 [0]; HT 10 [0].
Advantages: Fit [5]; Military Rank 0 [0].
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Gunner (Flamethrower, grenade launcher, machine gun, mortar, or rocket launcher) (P/A) DX+1 [2]-12; Guns (Rifle or light automatic) (P/E) DX+1 [1] -12*.
   * Includes +1 from IQ 10.
Secondary Skills: Karate (P/H) DX [4]-11; Running (P/H) HT-2 [1]-8; Stealth (P/A) DX [2]-11; Throwing (P/H) DX [4]-11.

Background Skills: Savoir-Faire (Military) (M/E) IQ [1]-10.

Advanced Template   75 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 10 [0].
Advantages: Combat Reflexes [15]; Fit [5]; Military Rank 2 [10]; Status 1 [0]*.
   * Free from Military Rank.
Disadvantages: Duty (12 or less) [-10].
Primary Skills: Leadership (M/A) IQ+3 [8]-14; Tactics (M/H) IQ+1 [6]-12.
Secondary Skills: Administration (M/A) IQ [2]-11; Computer Operation (M/E) IQ [1]-11; Guns (Rifle or light automatic) (P/E) DX+1 [1]-12*; Karate (P/H) DX [4]-11; Orienteering (M/A) IQ [2]-11; Running (P/H) HT-2 [1]-8; Stealth (P/A) DX [2]-11; Throwing (P/H) DX [4]-11.
   * Includes +1 from IQ 11.
Background Skills: Law (M/H) IQ-1 [2]-10; Savoir-Faire (M/E) IQ+2 [0]-13*; Savoir-Faire (Military) (M/E) IQ+1 [2]-12.
   * Free from Status.

Space Crew
   Space crew includes interplanetary or interstellar ship crews, asteroid miners, orbital construction workers, and anyone else who works outside the atmosphere.

Basic Template   30 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 10 [0].
Disadvantages: Code of Honor (Spacer) [-5].
Primary Skills: Free Fall (P/A) DX+1 [4]-12; Vacc Suit (M/A) IQ+1 [4]-12.
Secondary Skills: Astrogation (M/A) IQ [2]-11; Computer Operation (M/E) IQ [1]-11; Electronics Operation (Sensors) (M/A) IQ [2]-11; Mechanics (Reaction drives) (M/A) IQ [2]-11.

Advanced Template   75 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 12 [20]; HT 11 [10].
Advantages: Composed [5]; G-Experience [10].
Disadvantages: Code of Honor (Spacer) [-5].
Primary Skills: Free Fall (P/A) DX+2 [8]-13; Vacc Suit (M/A) IQ+1 [6]-13.
Secondary Skills: Astrogation (M/A) IQ [2]-12; Computer Operation (M/E) IQ [1]-12; Electronics Operation (Sensors) (M/A) IQ [2]-12; Mechanics (Reaction drives); (M/A) IQ [2]-12; Scrounging (M/E) IQ [1]-12.
Background Skills: First Aid (M/E) IQ [1]-12; Judo (P/H) DX-1 [2]-10.

Spy
   Information is a valuable commodity on Poseidon, especially information that other people don't want you to know and don't know you have. Computer hacking may be convenient, but often there's no substitute for sending someone to find things out in person.

Basic Template   30 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 10 [0]; HT 10 [0].
Advantages: Alertness +1 [5]; Composed [5].
Disadvantages: Duty (9 or less) [-5]; Secret [-10].

Primary Skills: Acting (M/A) IQ+2 [6]-12.
Secondary Skills: Computer Operation (M/E) IQ+1 [2]-11; Fast-Talk (M/A) IQ+1 [4]-11; Guns (Pistol) (P/E) DX+1 [1]-12*; Holdout (M/A) IQ+1 [4]-11; Karate (P/H) DX [4]-11; Shadowing (M/A) IQ+1 [4]-11.
   * Includes +1 from IQ 10.

Advanced Template   95 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 12 [20]; HT 10 [0].
Advantages: Alertness +5 [5]; Composed [5]; Legal Enforcement Powers [15]; Patron (9 or less) [25]; Security Clearance [5].
Disadvantages: Duty (12 or less) [-10]; Secret [-10].
Primary Skills: Acting (M/A) IQ+2 [6]-14; Shadowing (M/A) IQ+2 [6]-14.
Secondary Skills: Computer Operation (M/E) IQ [1]-12; Electronics Operation (Security systems) (M/A) IQ [2]-12; Fast-Talk (M/A) IQ [2]-12; Guns (Pistol) (P/E) DX+3 [1]-14*; Holdout (M/A) IQ [2]-12; Karate (P/H) DX+1 [8]-12; Savoir-Faire (M/E) IQ [1]-12; Streetwise (M/A) IQ-1 [1]-11.
   * Includes +2 from IQ 12.

Survivalist
   Poseidon is a frontier environment with a wide range of natural hazards. Skill in dealing with those hazards has economic value, both for hunters, foragers, and prospectors, and for guides who keep other people alive in the wild areas.

Basic Template   30 points
Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 11 [10].
Primary Skills: Survival (M/A) IQ+1 [4]-11; Swimming (P/E) DX+2 [4]-12.
Secondary Skills: Fishing (M/E) IQ [1]-10; Guns (Rifle) (P/E) DX+1 [1]-11*; Meteorology (M/A) IQ-1 [1]-9; Naturalist (M/H) IQ-1 [2]-9; Stealth (P/A) DX [2]-10; Tracking (M/A) IQ-1 [1]-9; and Navigation (M/H) IQ-1 [2]-9 or Orienteering (M/A) IQ [2]-10.
   * Includes +1 from IQ 10.

Advanced Template   75 points
Attributes: ST 10 [0]; DX 11 [10]; IQ 11 [10]; HT 11 [10].
Advantages: Fit [5].
Primary Skills: Stealth (P/A) DX+2 [8]-13; Survival (M/A) IQ+3 [8]-14.
Secondary Skills: Climbing (P/A) DX [2]-11; Cooking (M/E) IQ [1]-11; First Aid (M/E) IQ [1]-11; Fishing (M/E) IQ [1]-11; Guns (Rifle) (P/E) DX+1 [1]-12*; Meteorology (M/A) IQ [2]-11; Naturalist (M/H) IQ [4]-11; Scuba (M/A) IQ+1 [4]-12; Swimming (P/E) DX+1 [2]-12; Tracking (M/A) IQ [2]-11; and Navigation (M/H) IQ [4]-11 or Orienteering (M/A) IQ+1 [4]-12.
   * Includes +1 from IQ 11.

Technician
   Even on a frontier planet, someone has to keep the machinery running. Engineers and technicians face a variety of challenges on Poseidon, from scarcity of parts to detrimental environments.

Basic Template   **25 points**
Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 10 [0].
Advantages: Manual Dexterity +1 [3].
Primary Skills: Electronics Operation or Mechanics (M/A)
   IQ+1 [4]-12.
Secondary Skills: Computer Operation (M/E) IQ [1]-11;
   Research (M/A) IQ [2]-11; Scrounging (M/E) IQ [1]-11;
   and Electronics or Engineer (M/H) IQ [4]-11.

Advanced Template   **60 points**
Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [30]; HT 10 [0].
Advantages: Manual Dexterity +1 [3]; Versatile [5].
Primary Skills: Electronics Operation or Mechanics (M/A)
   IQ+2 [6]-15; Electronics or Engineer (M/H) IQ [4]-14*;
   and Scrounging (M/E) IQ+1 [2]-14.
   * Includes +1 from Versatile.
Secondary Skills: Computer Operation (M/E) IQ [1]-13;
   Electronics Operation or Mechanics (M/A) IQ [2]-13;
   Research (M/A) IQ [2]-13; and one of Architecture,
   Armoury, Demolition, or Lockpicking (M/A) IQ [2]-13,
   or Computer Programming, Metallurgy, or Shipbuilding
   (M/H) IQ-1 [2]-12.
Background Skills: Chemistry (M/H) IQ-2 [1]-11; Mathe-
   matics (M/H) IQ-2 [1]-11; Physics (M/H) IQ-2 [1]-12.

Trader

Traders include a variety of merchants, shopkeepers, and
peddlers. Their operations may be small or specialized, but
collectively they account for a large share of Poseidon's com-
merce. The successful ones may become owners of substan-
tial businesses, though not on the scale of Earth-based
corporations.

Basic Template   **25 points**
Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 10 [0].
Primary Skills: Merchant (M/A) IQ+1 [4]-12.

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*Brighton holds many treats for the alert
eye. On my first exploration, I rounded a
corner and nearly tripped over an old ped-
dler squatting on a blanket just outside a
pizza place, surrounded by his wares. These
were a nearly unrecognizable collection of
organic refuse: bundles of twigs and grass,
dried animal parts, oddly shaped bits of
stone and the like. I later learned these were
good luck charms and folk remedies. The
image stays with me years later.*
   *– Thomas McLain, **The New Yorker***

Secondary Skills: Accounting (M/H) IQ [4]-11; Administra-
   tion (M/A) IQ [2]-11; Computer Operation (M/E) IQ [1]
   -11; Economics (M/H) IQ-1 [2]-10; Fast-Talk (M/A) IQ
   -1 [1]-10; Guns (Pistol or Rifle) (P/E) DX+1 [1]-11*.
   * Includes +1 from IQ 11.

Advanced Template   **60 points**
Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [20]; HT 10 [0].
Advantages: Charisma +1 [5]; Comfortable [10]; Reputation
   +1 (Quality/reliability, among potential customers) [3].
Disadvantages: Code of Honor (Mercantile) [-5].
Primary Skills: Merchant (M/A) IQ+3 [8]-15; Economics
   (M/H) IQ+1 [6]-13.
Secondary Skills: Accounting (M/H) IQ [4]-12; Administra-
   tion (M/A) IQ [2]-12; Computer Operation (M/E) IQ [1]
   -12; Fast-Talk (M/A) IQ-1 [1]-11; Guns (Pistol or Rifle)
   (P/E) DX+2 [1]-12*; Law (M/H) IQ-1 [2]-11; Research
   (M/A) IQ-1 [1]-11.
   * Includes +2 from IQ 12.
Background Skills: Savoir-Faire (M/E) IQ [1]-12.

Whalesong Mystic

Whalesong mystics are the leaders of the major cetacean
religion; as a result, they have considerable influence in dol-
phin and orca societies. Only members of these two species
can pursue this profession.

Basic Template   **25 points**
Attributes: ST 10 [0]; DX 10 [0]; IQ 11 [10]; HT 11 [10].
Advantages: Clerical Investment 1 [5].
Disadvantages: Disciplines of Faith (Mysticism) [-10]; Sense
   of Duty (Planetary ecosystem) [-10].
Primary Skills: Performance/Ritual (M/A) IQ+2 [6]-13;
   Singing (P/E) HT+2 [4]-13.
Secondary Skills: Bard (M/A) IQ [2]-11; Bardic Lore (M/H)
   IQ [4]-11; Lucid Dreaming (M/E) IQ+1 [2]-12; Teaching
   (M/A) IQ [2]-11.

Advanced Template   **75 points**
Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [30];
   HT 11 [10].
Advantages: Clerical Investment 3 [15]; Status
   1 [0]*; Voice [10].
   * Free from Clerical Investment.
Disadvantages: Disciplines of Faith (Mysti-
   cism) [-10]; Sense of Duty (Planetary
   ecosystem) [-10].
Primary Skills: Bard (M/A) IQ+2 [2]-15*; Per-
   formance/Ritual (M/A) IQ+2 [6]-15;
   Singing (P/E) HT+4 [4]-15; Teaching
   (M/A) IQ+1 [4]-14.
   * Includes +2 from Voice.
Secondary Skills: Appreciate Beauty (Nature)
   (M/VH) IQ+2/IQ-4 [1]-9/15; Bardic Lore
   (M/H) IQ [4]-13; Diplomacy (M/H) IQ [1]
   -13; Lucid Dreaming (M/E) IQ+1 [2]-14;
   Naturalist (M/H) IQ-1 [2]-12; Oceanogra-
   phy (M/H) IQ-1 [2]-12; Philosophy (M/H)
   IQ-1 [2]-12.

ADVANTAGES, DISADVANTAGES, AND SKILLS

Advantages

Advantages fall into two classes (see pp. CI19 and CI49). Mundane advantages are available to unmodified human beings as a result of natural talent, life experience, or social position. Racial and super advantages represent powers and abilities that human beings don't have.

The distinction is somewhat blurred on Poseidon; cybernetic and genetic technology can confer "superhuman" powers on anyone who can afford them. Any advantage that can result from such improvements (see pp. 31) can be gained during play by expending character points.

Racial and super advantages may not be chosen freely during character creation. They can be included in racial templates (pp. 17-19) or in biotech packages (pp. 34-37). An adventurer who can afford a biotech upgrade can gain the included advantages by paying for them.

The specific effects of various advantages in an aquatic environment (or for aquatic-adapted characters in a no aquatic environment) are spelled out in detail.

Absolute Direction   see p. B19

Migrating sea creatures have a strong navigational sense to guide them to their destination. However, this ability is crude compared to the full Absolute Direction advantage and is a 0-point feature.

Acute Hearing   see p. B19

Non-aquatic characters or aquatic-adapted characters in their non-native environments lose all benefit from Acute Hearing.

Acute Taste and Smell see p. B19

Non-aquatic characters or aquatic-adapted characters in their non-native environments lose all benefit from Acute Taste and Smell.

Acute Vision   see p. B19

Non-aquatic characters or aquatic-adapted characters in their non-native environments gain only half their Acute Vision bonus (round down).

Alertness   see p. B19

Apply the various modifications for Acute Hearing, Acute Taste and Smell, and Acute Vision, as appropriate.

Breath-Holding   see p. CI21

This advantage assumes more efficient lungs and increased oxygen storage in the blood, as well as additional lung volume. Up to two levels of this advantage are available; beyond that see *Oxygen Storage*, this page.

Eidetic Memory   see p. B20

Specialized implant computers can record everything the user experiences in complete detail; this is effectively Eidetic Memory 2. Such records do not enhance mental skills; this is a -75% limitation. The normal storage capacity is 100 hours, but the user can pause recording and erase or record over data; these effects do not alter the point cost of the ability.

Gadgeteer   see p. CI25

The Gadgeteer advantage is not available in *GURPS Blue Planet*. New devices must be created using the New Inventions rules (pp. B186-187).

Interface Jack   see p. CI26

A standard neural interface implant allows the user to control equipment by direct mental commands (see *Teleoperation*, p. 57) if plugged into them through a standard fiber optic cable. A user who also has a Remote Datalink (see p. 31) can do the same thing by radio. If the use of the Remote Datalink is required, because the user has no jack, treat this as Interface Jack (can be jammed, -10%) for a net cost of 9 points. (Also see pp. 34-35.)

Nictating Membrane see p. CI62

This advantage eliminates the vision penalty for characters seeing in their non-native environment without goggles (see *Senses*, p. 77).

Oxygen Storage   see p. CI62

You have many features in common with marine mammals – notably cetaceans and pinnipeds. This includes the ability to store a significant quantity of oxygen in the hemoglobin in your blood or myoglobin in your muscles. Your muscles can operate anaerobically for extended periods. When diving, your lungs are evacuated and allowed to collapse under pressure (which often involves a flexible ribcage) – this reduces buoyancy and prevents problems from absorbing high pressure gases. Efficient blood routing keeps your vital organs supplied with oxygen and helps you stay warm.

These features allow you to spend significant amounts of time underwater before surfacing to breathe. Multiply the amount of time you can hold your breath (as determined on p. B91) by 90. You get no bonus for hyperventilation and this does not stack with Breath Holding or Breath Control. You must breathe normally for at least 10 seconds for every minute you were under water to correct oxygen debt. Diving again more quickly than this means you do not get a time multiplier and must start over the next time you surface.

This means a HT 10 character with Oxygen Storage can hold his breath for 60 minutes with moderate exertion. A dolphin with HT 12 can stay submerged for 18 minutes at heavy exertion such as during a dive. A humpback whale (HT 14) can dive for 21 minutes (at heavy exertion).

Characters with Oxygen Storage are immune to the bends, nitrogen narcosis, oxygen toxicity (see *Breathing*, pp. 74-76), and aseptic bone necrosis (p. 76) when diving without an external compressed air supply. If such characters breathe pressurized gas, they are affected by these problems like any other air-breather.

Oxygen Storage is functionally Doesn't Breathe (p. CI53) with the limitation Limited Duration (-30%), for a net cost of 14 points. Other limitations are possible: 30-minute Oxygen Storage gives a multiplier of 45 to breath-holding time (-40%, 12 points); 2-hour Oxygen Storage gives a multiplier of 180 (-20%, 16 points).

Patron   see pp. B24-25

The following Patrons are available in the setting of Poseidon:

The *GEO* is worth a base 30 points. Add 5 points if it gives an adventurer access to cutting-edge equipment or bio-mods.

An *Incorporate state* is usually worth a base 25 points; very powerful states are worth a base 30 points. Many Incorporate states engage in innovative technological research, and they are more likely than the GEO to let agents use its products; add 5 points in this case. (A GEO force with standard equipment and an Incorporate force with advanced equipment could find themselves on opposite sides in a fight; the results would be . . . interesting.)

A *native community* is typically worth a base 10 points.

Pressure Support   see p. CI63

This advantage keeps you from suffering harmful effects from pressure higher than your native pressure. Aquatic creatures do not necessarily need this advantage, but they may suffer if they leave their narrow "layer" of the seas. Pressure Support does not provide immunity to sudden or localized changes of pressure (such as a hull breach or explosive shockwaves).

Characters without Pressure Support can often withstand high pressures for short periods of time, if compressed slowly and if suitable precautions against secondary dangers are taken (see *Breathing*, pp. 74-76). However, living for long periods at pressure will cause them physiological problems – from stressed cardiovascular systems to muscle and bone degeneration. Pressure Support will prevent these problems and allow a full, healthy life under high pressures.

Pressure Support grants immunity to the damage caused by crushing pressure (p. 76). It also prevents oxygen toxicity and nitrogen narcosis (p. 75), and maladies brought on by the stress of repeated pressure changes such as bone necrosis.

The 5-point version of Pressure Support allows safe operations in pressures up to 10 times native pressure, and the 10-point version protects characters at up to 100 times native pressure. The 15-point version is not available in *GURPS Blue Planet*.

Sonar Vision   see p. CI66

You have the ability to produce sound waves that bounce off nearby objects; by analyzing the time it takes for echoes to return you can construct an image of your environment. You have the vocal capacity to produce these sounds, and the ability to receive the echoes and interpret the resulting images. This may involve special organs such as the oil-filled melon of dolphins or the enlarged nasal cavities and ears of bats.

Sonar Vision is normally limited to a 120° arc in front of you; the addition of the Peripheral Vision advantage means you can scan 180° to the front. Large features can be discriminated clearly at up to 800 yards in good conditions in water and 100 yards in air. The closer the object, the better the resolution. You have Color Blindness (p. B28) while using Sonar Vision but do not suffer penalties for darkness of any kind.

Sonar Vision is not as detailed as medical ultrasound – signal attenuation and processing ability make discriminating fine detail at a distance very difficult. In water, layering effects will also adversely affect resolution (see pp. 72-73).

Sonar Vision can be blinded by explosions and other loud multifrequency sound sources or interfered with by strong sonar signals. Explosions affect Sonar Vision like flash-bang grenades (pp. 54-55) and interfering sonar will cause a -1 to -5 penalty depending on intensity. Bubble walls and other techniques that disrupt sonar will appear as "blank spots" or jumbled terrain depending on the exact method used.

Special enhancement: You have superior signal discrimination and recover quickly from sudden noises blinding you. The longest you remain blinded or stunned by loud noises is 2 seconds. This does not help you recover from stunning caused by explosive concussion. Cf. Polarized Eyes (p. CI63). +20%.

Special limitation: You are Nearsighted (p. B27) when using your sonar and can only distinguish detail within 10 yards. -25%.

Special limitation: Your sonar is only effective either in the air or underwater, not both. -30%.

Temperature Tolerance
see p. CI30

The standard rules for this advantage, and the standard effects of heat and cold (p. B130), are for exposure to air. Under these rules, a temperature between 35°F and 90°F is thermally neutral; a higher or lower temperature may cause ill effects. Each point of Temperature Tolerance widens this range by HT degrees. Normally, the addition is divided equally between the hot and cold ends of the scale (for example, a character with HT 10 and Temperature Tolerance 1 would have a thermally neutral range from 30 to 95 degrees). But equal division isn't mandatory; it's even permissible to apply the entire increase to one end of the scale (for example, a thermally neutral range from 35 to 100 degrees). The resulting shift in the center of the thermally neutral zone is a zero-point feature.

For an unmodified human being, the thermally neutral range in water is from 75°F to 85°F. Each point of Temperature Tolerance widens this range by HT/5 degrees.

For a dolphin, orca, aquaform, or other character with the Amphibious advantage, the thermally neutral range in water is from 50°F to 85°F. Each point of Temperature Tolerance widens this range by HT/2 degrees.

New Advantages

The following new advantages are available for *GURPS Blue Planet* characters. Except as noted, they are racial and super advantages. Many of them have been defined in other *GURPS* supplements and are reprinted here for convenience.

Bug Detector   5 points

You can locate electromagnetic signal sources such as bugs or radios. This doesn't include passive recording devices. The bug detector can feed into any sensory channel; the GM may require a Sense roll to spot signal sources.

Dataspike Port   0 points

You have a port somewhere on your body into which a dataspike (see p. 34) can be inserted; the usual location is the skull. This is a 0-point feature. By itself, it can read dataspikes but not write onto them; in conjunction with a suitable implant (see p. 34), it can write as well as read.

Hypertough Skeleton   75 points

Your skeleton has been strengthened with synthetic organic polymers, making it nearly unbreakable. You take half damage from any cutting or crushing blow, rounded up, except one targeted at a soft point such as the eye, throat, or vitals; bullets do full damage. Your limbs, hands, and feet cannot be crippled by blunt crushing attacks or falls. Bullets or cutting or impaling weapons can have crippling effects, but the damage required for these effects is doubled: more than 2/3 HT for a hand or foot and more than HT for a limb.

Your brain has DR 60 against all attacks, unless they pass through the eye socket.

Hypertough bones do not show up on metal detectors, but have a distinctive appearance in medical scanners. Your weight increases 10%.

Independent Income   5 points

You have a source of income that does not require you to work. This may be a trust fund, a pension, rent on land or houses, royalties on inventions -- use your imagination! Income per month is 5% of the starting wealth for your wealth level. At the GM's discretion, you may need to spend 10 hours a month looking after financial matters. This advantage only applies to characters who normally would work for a living, i.e., from Poor to Wealthy. If you are Very Wealthy or better you already have it, and the same 5% of starting wealth per month can be used to determine your income; if you are Dead Broke you have no income.

If your income derives from investments, their exact value need not be specified; it is assumed that you cannot or will not invade your capital.

Independent Income is a mundane advantage.

Jammer   3 points

You can send out high-powered radio signals (this advantage is based on Cyberspeakers, p. UTT106). Three modes of operation are possible:

Loud Signal: Broadcast (p. CI51) is a prerequisite for using this ability. You can transmit a voice signal that overpowers other signals on the same frequency within a 1-mile radius.

Music: Broadcast (p. CI51) and Dataspike Port (this page) are prerequisites for using this ability. You can transmit recorded music that overpowers other signals on the same frequency within a 1-mile radius.

White Noise: This ability has no prerequisites. You can send out random noise that interferes with bugs and other transmitters. Hearing their signals through your interference requires an Electronics Operation roll at -3 if you are within 10 yards of the other transmitter, or at -1 if you are within 11-20 yards.

Programmed Reflexes   5 points

Programmed reflexes involve a special-purpose computer connected to the cerebellum and upper spinal cord. This stores stereotyped sequences of body movements that take place when specific "trigger" stimuli are received. Each reflex can be active or inactive at the user's discretion, but when active, it operates completely automatically; Will rolls do not affect programmed reflexes. Specific reflexes are defined as advantages (see p. 35); the basic 5-point cost grants only the ability to acquire advantages in this way. Up to ten programs can be active at a time.

Radiation Tolerance   Varies

Your cells or circuits are less vulnerable to radiation. Divide the effective dose of rads you accumulate (after PF) by 2 (4 points), 3 (7 points), 4 (8 points), 5 (10 points), 10 (14 points), 20 (18 points), 50 (23 points), 100 (28 points), 200 (32 points), 500 (37 points), or 1,000 (41 points).

Remote Datalink   20 points

You have a high-frequency computer link implanted in your body. By itself, it can only send and receive data files; but if you also have an Interface Jack (p. 29), you can use all of its functions by radio as well. Range is normally line of sight, but can be extended if a relay satellite is above the horizon.

Skill Bonus   Varies

Various cybernetic or genetic modifications enhance the effectiveness of certain skills. The skill must still be learned; an untrained user doesn't know how to benefit from the modification! The point cost for a +1 bonus is half the point cost of learning the skill at DX or IQ; the point cost for a +2 bonus is half the point cost of learning the skill at DX+1 or IQ+1; the point cost for a +3 bonus is half the point cost of learning the skill at DX+2 or IQ+2.

Striker (Ram)   5 points

A ram is a hardened area on the head, used in charges in the same way as horns. A charge requires at least 1 turn of movement in a straight line before the turn in which the attack is made. Damage from a charge is computed as follows: Multiply Move by Hit Points, divide by 100, round off to the nearest whole number, and take the result as dice of damage. ST has no effect on damage. A ram can only be used in a charge.

Disadvantages

Disadvantages, like advantages, are divided into two classes: mundane disadvantages, and racial and super disadvantages. Note that many disadvantages can be corrected by cybernetic or genetic modifications; only those who are poor, unwilling to undergo modification, or who suffer from unusual genetic syndromes will have such disadvantages.

The specific effects of various disadvantages in an aquatic environment (or for aquatic-adapted characters in a non-aquatic environment) are spelled out in detail.

Age   see p. B27

Thanks to general advances in medicine, aging rolls (see p. B83) begin at age 90, and double in frequency at ages 110 and 130. The Age disadvantage is thus based on age over 90, rather than the standard age over 50. Anyone with access to longevity therapy based on Long John may not take the Age disadvantage at all.

Aquatic   see p. CI101

Aquatic characters suffer no penalties using skills underwater, but suffer a -2 penalty to DX-based skills when out of water (see p. CI101). Additionally, for all templates in this book, Aquatic includes the zero-point feature Amphibious (No Move on land) [0], which allows aquatic-adapted beings to swim at their normal Move rate without needing Swimming skill (see p. CI49).

Cannot Swim   see p. CI101

For a species, this is a 0-point feature. For individuals of species normally capable of swimming, this is a -1-point Incompetence (p. CI91).

Code of Honor   see p. B31

A number of occupations have Codes of Honor. These may or may not entail facing physical danger; they do involve placing oneself at a disadvantage for the sake of one's own self-respect. Examples include Gang Member (basically the same as Pirate, p. B31), Merchant (pay all debts and perform all contracts), Performer ("the show must go on"), Scholar/Scientist (acknowledge sources and prior discoveries, report findings accurately, test all theories), Spacer (put the survival of the ship or colony first, aid those in need, face danger calmly), and Sportsman (play by the rules, respect opponents, accept defeat graciously). Some of these are built into professional templates; others are optional, though adhering to them tends to earn a better reputation.

Fanaticism   see p. B33

Complete refusal to have any implants or biomods can be defined as Fanaticism.

Increased Life Support   see p. CI102

Increased Life Support levels for food requirements are one level for up to twice as much food as a human, two levels for three *or more* times as much. The cost of water tanks and purification equipment for aquatic creatures in life support situations is included in the Aquatic disadvantage, and does not need to be bought as Increased Life Support.

Mute   see p. B29

Dolphins and orcas normally have access to CICADA units (see p. 49), which act as mitigators for this disadvantage by providing an artificially generated voice, in the same way that glasses act as mitigators for Bad Sight. Because of this, the value of the disadvantage is -10 points rather than -25 points.

No Manipulators   see p. CI103

Dolphins and orcas normally have access to CICADA units (see p. 49), which act as mitigators for this disadvantage, in the same way that glasses act as mitigators for Bad Sight. Because of this, the value of the disadvantage is -20 points rather than -50 points.

Secret   see p. CI78

Normally, someone with a Secret is alone in his knowledge. In espionage, however, there are many things that a spy must hide from the public, his loved ones, and the enemy, but that are known to other members of his service. The point cost for this kind of Secret is unchanged. The agent has colleagues with whom he can share his burden, and who can help him keep his Secret – but these same people could use his Secret to threaten or coerce him. In particular, knowledge of illegal agency activities can be a dreadful Secret.

Unnatural Feature   see p. CI85

Most people will recognize visible cybernetic body parts for what they are, but they still confer a distinctive appearance and may provoke an emotional reaction. (This does not apply to commonplace cybermods such as a neural jack!) Each feature is worth -5 points. More expensive variants may be available that cannot be distinguished from the unmodified human body by unaided human senses; they do not count as Unnatural Features. Such abilities as Sonar Vision and Field Sense can identify their nature; this is a 0 point feature

Skills

The following skills have special interpretations on Poseidon:

Botany/TL   see p. B60

A botanist may specialize in Botany (Marine). This covers nutrient distribution, phytoplankton, algae, and sea grasses.

Crossbow   see p. B50

The use of spear guns (see p. 51) falls under this skill.

Ecology/TL   see p. B60

An ecologist may optionally specialize in the same terrain types as the Survival skill (see p. 33).

Genetics

This skill has three *required* specializations, which default to each other at -2. A specialization in *heredity* grants the ability to map and sequence genomes and investigate mechanisms of inheritance; its prerequisite is Physiology or Biochemistry. A specialization in *genetic engineering* grants the ability to create new genetic sequences and implant them in living organisms using transform viruses, producing gen-emods or even new strains such as the various genies; its prerequisite is Biochemistry. A specialization in *genetic medicine* grants the ability to identify the genetic basis of a developmental abnormality or neoplasm and correct the problem; its prerequisites are Biochemistry and Diagnosis.

Specialization in Earth or Poseidonian lifeforms is also required; the two specializations default to each other at -4. At present only the specialization of heredity is available for Poseidonian lifeforms. A few researchers may be experimenting with genetic engineering of such lifeforms; any project of this kind should be treated as a new invention as defined on pp. B186-187.

Geology/TL

A geologist may specialize in Geology (Marine). This covers submarine plate tectonics, mid-ocean rifting, hydrothermal vents, and submarine volcanoes, rocks, mineral deposits, and crustal formations.

Meteorology/TL

Meteorology includes a good deal of oceanic science, especially on Poseidon. A meteorologist will understand air-sea interactions that give rise to prevailing wind patterns, atmospheric pressure distributions, and weather effects such as hurricanes and monsoons.

Savoir-Faire

Use this skill to select expensive clothing or gear that will make a good impression on your social circle. On a failed roll, you pay the same amount but get clothing inappropriate to the situation.

Scuba

This skill covers all underwater breathing apparatus systems – specifically rebreathers. Other breathing systems are treated as familiarities (see p. B43) of this skill.

Survival

Aquatic survival includes a basic understanding of tides and currents, knowledge of simple water distillation methods, how to locate or catch food in a particular region, and how to avoid hazards such as venomous fish, sharks, and stinging jellyfish.

In addition to the specialties listed on p. B57, the following are applicable to the various "terrains" of the oceans and waterways: Bank, Deep Ocean Vent, Fresh-Water Lake, Open Ocean, Reef, River/Stream, Salt-Water Sea, Tropical Lagoon.

Zoology/TL

A zoologist may optionally specialize in Zoology (Marine). This covers zooplankton, invertebrate species, fish, marine reptiles, and cetaceans.

New Skills

Several new skills are useful in the aquatic environment of Poseidon.

Aquaculture [Mental/Average]
Defaults to IQ-5

This is the skill of managing aquatic ecosystems and harvesting their output, including plankton, algae, and fish. It corresponds to Fishing as Agronomy corresponds to Survival. Specialization in freshwater or oceanic ecosystems is mandatory.

Endurance Swimming [Physical/Average]
No default

Available only to Amphibious or Aquatic races, this skill is the aquatic analog of Hiking (p. CI152). It is based on HT, not DX. Roll vs. Endurance Swimming before each half day's travel; on a successful roll, increase distance traveled by 20%. If a group is traveling, all its members must succeed on the Endurance Swimming roll to gain this benefit.

Herding [Physical/Average]
Defaults to DX-5

This skill is the ability to work with a group of animals, keeping them in one area or moving them to another, separating a particular animal from the rest of the group, etc. This is a physical skill that is not normally learned by human herders; instead, they use Animal Handling to command sheepdogs, cow ponies, or other animals to perform herding tasks, and the animals then use Herding skill to do so. However, dolphins and orcas use Herding to control the movements of fish and other marine lifeforms. Animal Empathy adds 4 to this skill.
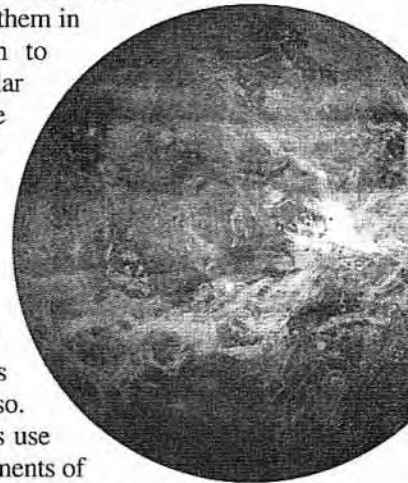
Oceanography/TL [Mental/Hard]
Defaults to IQ-6 or Physics-6

This is the study of the fluid dynamics and thermodynamics of oceans. It covers water properties such as density, pressure, temperature, solutes, and fluid flow (currents, tides, waves). A professional oceanographer may also have other skills such as Botany (Marine), Ecology, Geology (Marine), Hydrology, Meteorology, or Zoology (Marine).

Pathology/TL (Mental/Hard)
Defaults to IQ-7, Physician-5, or Surgery-5
Prerequisites: Physiology-12 and either Chemistry-12 (TL6-) or Electronics Operation (Medical)-12 (TL7+)

Pathology is the study of the structural and functional changes in the human body caused by illness and death. A successful Pathology roll will let you determine the presence and progress of a disease in a living person, or conduct an autopsy to assess the time and cause of death in a dead one.

In contrast to Diagnosis, which is based on symptomatology, Pathology is based on laboratory tests and exploratory surgery. *Modifiers:* -5 if the disease or cause of death is rare or unusual; -5 without a proper lab (for diagnosis) or surgical tools (for an autopsy).

Speed Swimming (Physical/Hard)
No default

Available only to Amphibious or Aquatic races, this skill is the aquatic analog of Running (p. B48). It is based on HT, not DX. If you have studied this skill, divide your skill level by 8 (don't round down) and add the result to your Speed to calculate your Move in water (it doesn't affect Dodge).

BIOTECH

The technology of the 22nd century offers many ways of improving the basic human (or dolphin or orca) design. Cybernetic surgery, the oldest technique, incorporates small mechanical or electronic devices into a living organism. Genetic redesign creates entirely new organisms. Genetic and biological modification make limited changes in already existing organisms; the availability of Long John makes such modifications far easier to achieve.

Racial and super advantages are normally acquired as biotech modifications. Each modification listed here is a package of one or more advantages (and sometimes disadvantages); for definitions of these advantages and disadvantages, see pp. 29-32, B15-40, and CI15-112. In addition to the advantages and disadvantages, a package includes: the legality class (LC); the cost; and the time to recover from having it installed in one's body.

Implanted Computers

An implanted computer is surgically placed within the user's body, normally in the abdomen. A neural interface circuit (NIC) enables it to exchange data with the user's central nervous system. The user's body heat supplies sufficient power to keep it functioning. Any external ports are usually mounted in the skull.

Implanted Calculator   5 points

An implanted calculator can solve computational problems as quickly as the user can formulate them mentally. It has no external ports.

Advantages: Lightning Calculator. LC 6; $10,000; 2 weeks.

Implanted Microcomputer
35 points

An implanted microcomputer can run programs and store information, but does not have sufficient memory to function as a sensory recorder. It can record text passages, mathematical algorithms, scanned still images, or comparable data for no point cost, as a fringe benefit of its data processing

functions. The implant is basically an advanced bodycomp (see p. 44) with the High-Capacity option; it uses one of its three program slots to run an interface with the user's brain, leaving the other two for standard computer functions.

Advantages: Absolute Timing; Dataspike Port (Read/write); Interface Jack; Lightning Calculator; Mathematical Ability. LC 5; $50,000; 3 weeks.

Any other implanted device listed in this section can be installed as an optional accessory to an implanted microcomputer at half price; healing time is that for the microcomputer or that for the added device, whichever is longer.

Implanted Sensory Recorder
15 points/0 points

An implanted sensory recorder can record up to 100 hours of sensory stimuli internally, or play back data recorded earlier. It does not capture thoughts or emotions. The recording function can be run continuously or turned on and off at will. The standard version comes with a dataspike port; a standard dataspike can hold 2 hours of sensory impressions. (This device has effectively the same capabilities as the Recorder Implant in *GURPS Ultra-Tech*, which also costs 15 points.)

Advantages: Eidetic Memory 2 (No skill bonus, -75%).
Features: Dataspike Port. LC 6; $20,000; 2 weeks.

A cheaper variant can play back recorded impressions from a dataspike, but not record new ones, either on a dataspike or internally. This is becoming popular as an entertainment medium.

Features: Dataspike Port. LC 6; $5,000; 2 weeks.

Neural Jack   10 points/
29 points/30 points

Even without a general purpose implanted computer, it's possible to install circuitry that translates neural impulses into digital output and digital input into neural impulses. This allows direct interfacing with a teleoperated device, computer, or communications channel. Either a neural jack or an implanted radio modem can be used to provide the interface. Point cost depends on which options are taken.

Advantages: Interface Jack. LC 6; $8,000; 1 week.

Advantages: Interface Jack (can be jammed, -10%); Remote Datalink. LC 6; $10,000; 1 week.

Advantages: Interface Jack; Remote Datalink. LC 6; $11,000; 1 week.

Pain Inhibitor   10 points

A pain inhibitor is a small implant that blocks neural signals from pain receptors. To prevent users from simply disregarding injuries, it generates a signal in a different sensory modality when in operation. This may be text imprinted on the retina, a sound signal, or a tactile stimulus.

Advantages: High Pain Threshold. LC 5; $27,000; 4 weeks.

Programmed Reflexes   Varies

Anyone with the Programmed Reflexes advantage may acquire a number of other advantages by having them installed as programs. The basic advantage is LC 5, costs $65,000, and requires 3 weeks healing time. Programs have a Legality Class and a cost, but no healing time. Some common programs are as follows:

Autoload: The user automatically counts shots fired from any weapon and must reload after firing the last shot in a clip before taking any other action. Grants +3 to Speed Load skill for the specific weapon. LC 4; $425. 2 points.

Enhanced Parry: As defined on p. CI24, but does not require Trained by a Master and is not considered cinematic. Effective with bare hands and with all weapons. LC 6; $425. 16 points.

Fast-Draw: Grants +3 to Fast-Draw skill for a specific weapon. LC 2; $425. 2 points.

Perfect Balance: As defined on p. CI63. LC 6; $425. 15 points.

Sleepwalker: This routine monitors the sounds received by the user's ears and instantly wakes the user when the sound matches a trigger profile. Up to 10 classes of trigger profiles may be specified. Bought as Danger Sense (Only when sleeping, 20%). LC 6; $425. 12 points.

Sensory Cyberware

Bionic Eye   Varies

A basic bionic eye has the same visual capabilities as a human eye and is worth -5 points.

Disadvantages: Unnatural Feature. LC 6; $13,000; 4 weeks.

Various features may be added as upgrades:

Cosmetic enhancement makes a bionic eye indistinguishable from a normal eye and adds 5 points to its cost.

Advantages: Buy off Unnatural Feature. LC 6; $2,000.

Infrared vision adds 15 points to the cost of a bionic eye.

Advantages: Infravision. LC 6; $1,800.

Telescopic vision adds 12 points to the cost of a bionic eye.

Advantages: Two levels of Telescopic Vision (×4 magnification; +2 to Vision to locate an object, +4 to examine a located object). LC 6; $1,800.

Implanted Radar   70 points

Low-powered microwaves emitted from a subdermal band around the skull confer a full 360° of radar perception.

Advantages: Radar Sense with range 20 yards. LC 6; $18,000; 2 weeks.

Infrared Sensors   15 points

Infrared sensors, or "vipers," are implanted in pairs under the skin of the cheeks.

Advantages: Infravision. LC 6; $15,000; 2 weeks.

Spyware   Varies

Spyware is a complex suite of cybernetic implants useful in covert operations. The various units are normally acquired as an integrated system, but their separate specifications are as follows:

A *biosensor* is worth 24 points. It provides infrared and electric field sensors that can monitor a subject's physiological and emotional responses (apply the range modifiers from p. B201).

Advantages: Field Sense (Electric fields only; no Absolute Direction), Infravision, Skill Bonuses: +1 to Body Language and Detect Lies. LC 3; $30,000; 2 weeks.

Implanted radar costs 70 points; see above.

An *implanted sensory recorder* costs 105 points; see p. 34.

A *wide-band transceiver* costs 23 points.

Advantages: Broadcast; Bug Detector; Jammer; Radio Hearing. LC 3; $15,000; 2 weeks.

Taken all together, a complete set of spyware costs 227 points. LC 3; $75,000; 4 weeks.

Anatomical and Technical Cyberware

A few people are either unable or unwilling to make use of cultured tissue implants or regrowth. They may resort to anatomical cyberware instead. Cyberware can simply duplicate the function of a lost limb, or augment it.

Implanted Micro-Toolkit   Varies

This is an alloy wristband with mounts for many small, retractable robotic arms, probes, fiber optic micro-cameras, and similar tools.

Advantages: Skill Bonus: +2 to a specific skill. Cost depends on the skill: 1 point for P/E or M/E, 2 points for P/A or M/A, 3 points for M/H, 4 points for P/H, 6 points for M/VH. LC varies with skill; $15,000; 2 weeks.

Prosthetic Limbs   Varies

A bionic hand, arm, or leg can simply replace the original; this is worth -5 points per hand or arm and per leg.

Disadvantages: Unnatural Feature. LC 6. $10,000 for a hand, $15,000 for an arm or leg.

Cosmetic enhancement makes a prosthetic limb indistinguishable from a normal limb by visual inspection and adds 5 points to its cost.

Advantages: Buy off Unnatural Feature. LC 6; $2,000.

An *enhanced bionic hand or arm* can have ST or DX increased by 1; divide point cost by 8 for a hand, by 4 for an arm. LC 5; $2,500 per attribute for a hand, $5,000 per attribute for an arm.

An *enhanced bionic leg* increases Move and Jump ranges by 25% for 10 points. Enhancement of both legs costs 20 points and grants a 50% increase in Move, Jump ranges, and Dodge. LC 5; $5,000.

Survival Biomods

Cast Iron Stomach   15 points

You can eat almost any food without concern for spoilage or toxicity; this is a great help in surviving in the wilderness. You may fail to find anything that actually nourishes you, but you won't poison yourself. Politicians, heads of corporations, and organized crime bosses also find this biomod useful for protection against assassination.

Advantages: Cast Iron Stomach. LC 6; $8,000; 2 weeks.

Filter Lungs   5 points

The ability to breathe contaminated air is useful to fire-fighters and other emergency workers.

Advantages: Filter Lungs. LC 6; $9,000; 2 weeks.

Immunological Symbiont   25 points

A colony of artificial one-celled organisms has been injected into your bloodstream, where it performs a variety of functions that maintain health and protect against disease.

Advantages: Longevity; Panimmunity (+8 to HT to resist any disease); Radiation Tolerance (divide effective dosage by 5); Rapid Healing. LC 6; $10,000; immediate.

Genetic Redesign

Members of any human genetic type can be transformed into any other type. Costs for transformation from unmodified human stock are as follows:

Aquaform (Diver): $22,000, 4 months.
Aquaform (Squid): $28,000, 5 months.
Cat: $40,000, 4 months.
Silva: $40,000, 4 months.
Spacer: $25,000, 3 months.
Transhuman: $25,000, 1 month.

The cost is 50% higher for transformation from any genetically modified template to any other. It is also possible to go from a genetically modified template to baseline human; this costs 50% less than going from baseline to the modified template. Thus, a Cat could become an unmodified human for $20,000, or a spacer for $37,500.

All genetic transformations are LC 5.

Improved Blood Oxygenation   9 points

The oxygen storage capacity of your red blood cells has been enhanced.

Advantages: Breath-Holding (two levels); Fit. LC 6; $6,000; 1 month.

Salt Tolerance   5 points

Your kidneys can eliminate excess salt, enabling you to drink either fresh or salt water.

Advantages: Decreased Life Support, one-half level. LC 6; $5,000; 2 weeks.

Glandular Biomods

Emotional Control   63 points

This complex suite of endocrine and neurological readjustments gives you voluntary control over your brain chemistry. You can suppress pain and fear, suppress (or enhance) other emotional states, and generate altered states of consciousness equivalent to those produced by the common psychoactive drugs. As a byproduct of the ability to induce emotional states, you can make yourself believe your own statements, making your use of Fast-Talk more effective.

Advantages: Autotrance; Composed; Drug Factory (affects self but not others, 0% feature; hallucinogenic, sedative, and stimulant effects); High Pain Threshold; Skill Bonus: +2 to Fast-Talk. LC 5; $7,000; 1 month.

Hyper-Reflexes   15 points

You can consciously trigger glandular responses that enhance the speed of your reactions.

Advantages: Hyper-Reflexes. LC 5; $5,000; 2 weeks.

Hyper-Strength   30 points

You can consciously trigger glandular responses that enable you to exceed the normal limits of your strength.

Advantages: Hyper-Strength. LC 5; $5,000; 2 weeks.

Sensory Biomods

Acute Hearing   2/level

The sensitivity of your ears is increased.

Advantages: Acute Hearing, one or two levels. LC 6; $2,000/level; 3 weeks.

Discriminatory Smell   15 points

Your sense of smell is increased.

Advantages: Discriminatory Smell. LC 6; $5,000; 3 weeks.

Enhanced Extra-Sensory Perception   30 points

Research in the early 21st century identified specific neurotransmitters associated with extra-sensory perception. One of the first biomods, developed in 2068 by the American

and British governments, boosts the levels of these neurotransmitters to confer limited psionic abilities. Actual psi skills as defined on pp. B165-176 remain unknown.

Advantages: Danger Sense; Empathy. LC 5; $30,000; 2 weeks, followed by 4 months of full-time training.

Sonar Vision   18 points

Addition of this ability to a human body produces a slightly enlarged larynx capable of generating ultrasonic waves and small bulges behind enlarged external ears to house modified inner ear structures. The standard version is designed for use in water.

Advantages: Sonar Vision (Only in water, -30%). LC 6; $9,000; 3 weeks.

An alternative version, designed for use in air, is more expensive, as there's not enough demand to make it a standard procedure.

Advantages: Sonar Vision (Only in air, -30%). LC 6; $18,000; 3 weeks.

A character with no other form of vision pays 0 points for Sonar Vision.

Telescopic Vision   6 points/level

The focusing ability of your eyes has been enhanced.

Advantages: Telescopic Vision, one or two levels. LC 6; $2,500/level; 3 weeks.

Full-Body Biomods

Bioelectric Shock   10 points

Myoelectric tissue like that of an electric eel is implanted within the body. Bioelectric shock inflicts lethal electric shock (see box, this page).

On land, bioelectric shock requires touching the target. In salt water, it becomes a ranged attack; subtract 2 points from rolled damage and apply the speed/range modifier (p. B201).

Advantages: Bioelectric Shock. LC 5; $7,500; 2 weeks.

Hyperactive   30 points

Advantages: Hyperactive (equivalent to Increased Speed +2 and two levels of Increased Life Support). LC 4; $35,000; 2 months.

Myo-Skeletal Enhancement
100 points

Your skeleton is artificially strengthened and used as support for increased musculature. Your appearance is exaggeratedly bulky. Your weight increases by 10% due to the skeletal weight and by an added 40 lbs. for muscle mass.

Advantages: +4 ST; Extra Encumbrance; Hypertough Skeleton.

Disadvantages: 4 Fatigue; Unattractive. (Any other level of appearance is bought up or down from a base of Unattractive, not Average.) LC 4; $150,000; 4 months.

Effects of Electric Shock

Electrical weapons, or accidental contact with electric charges or currents, cause highly variable effects. For simplicity, each shock is assigned to one of the following options. "Modified HT roll" refers to a roll against the victim's HT with any adjustments specific to the weapon or current source. (See also pp. CII138-139.)

Nonlethal Electric Shock

Requires a modified HT roll, at +3 for High Pain Threshold, -4 for Low Pain Threshold, and +1 per 10 DR for nonmetallic armor. On a failed roll the victim is stunned for the duration of the current and a further (20-HT) seconds, after which normal rolls to recover from stun are permitted; the victim also suffers 1d fatigue. On a critical failure the victim's heart stops (see below).

Localized Electrical Burns

Requires a modified HT roll, adjusted for High/Low Pain Threshold as above. On a failed roll, the victim is stunned for 1 second, after which normal rolls to recover from stun are permitted; if the attack hit a hand or arm, a Will roll is required to avoid dropping anything carried in that hand. Also inflicts burns, typically 1d-3.

Lethal Electric Shock

Inflicts damage through internal burns; metallic armor is PD 0, DR 1 against such damage. Requires a modified HT roll, minus half the damage that penetrates DR, and adjusted for High/Low Pain Threshold as above, to avoid being stunned for the duration of the current and a further (20-HT) minutes, followed by another (20-HT) minutes at -2 DX. Requires a second modified HT roll, minus half the damage that penetrates DR, to avoid cardiac arrest; failure reduces HT to 0 and causes death in HT/3 minutes.

Cultural Familiarities

Cultural variety is an important part of *Blue Planet*. The various character origin templates reflect this diversity. But, in addition, each culture has an assortment of small learned abilities and forms of knowledge, such as a 21st century American's knowing how to use a telephone and understanding that being 10 minutes late to an appointment calls for an apology.

To reflect this, each *GURPS Blue Planet* character should be defined as familiar with one culture. Skill rolls for social skills and other skills based on common cultural knowledge are made normally for that culture; for other cultures, they are made at a penalty, usually -2. For example, positive Status grants free Savoir-Faire at IQ+2 in one's native culture, but at IQ in other cultures, effectively a -2 penalty.

The GM may choose to let an immigrant to Poseidon be familiar both with one of Poseidon's cultures and with one other culture, if the immigrant has been on Poseidon for some time. There is no point cost for this familiarity. The GM may also require a recent immigrant to cope with unfamiliarity penalties until he has been on Poseidon long enough to know his way around.

WEALTH, STATUS, AND JOBS

People on Poseidon have a huge range of jobs and potential incomes, from the lowliest native with his flint, all the way up to Incorporate CEOs and the idle rich. Status isn't easy to come by, but there is much more room on Poseidon for an ambitious person to make his mark than there is back on Earth. Newcomers should beware, though; money and status don't translate into all of the widely varying cultures on the water world. That incorporate title and scrip won't mean a thing to an angry orca.

Currency and Prices

Poseidon has no standard currency; each Incorporate state issues its own scrip, in both paper and electronic form. Exchange rates between the different scrips float freely against each other. This can get very complicated – as complicated as the players will allow – but for most campaigns it's easier to assume an average "corporate scrip," represented as a $. Starting wealth is $30,000.

Xenosilicates also serve as a medium of exchange, particularly for travelers going from one community to another. A reasonable average exchange rate is $1,000 per gram, or $1 per milligram.

The following are some sample prices:

Restaurant meal	$20
Beer, mug or bottle	$2
Wine, bottle	$10 and up
Accommodations, bunk	$15
Accommodations, private room	$100
Clothing, basic	$120
Clothing, luxury	$750
Plastic ammunition, any caliber	$4/lb.
Basic medical kit	$1,600
Surgical kit	$8,800
Blank dataspike	$5
Reference manual dataspike	$340
Computer net access time	$1 per hour
Long-range radio call	$5 per minute
Hover cab fare	$5 + $5 per mile
Intercolony flight	$2 per mile
Intercolony ship passage	$0.50 per mile
Interstellar passage, first class	$10,000

Status

Poseidon is a rough-and-tumble society, where fortunes can be made and lost; things haven't settled down enough for Status to be clearly defined. The usual source of Status is Military or Administrative Rank, either of which grants 1 level of Status per 3 levels of Rank (divide Rank by 3 and round to the nearest whole number). Wealthy or better characters get +1 Status, and each level of Multimillionaire grants an added +1. These sources of Status aside, few colonists have more than one level of Status plus or minus. Natives have longer established communities, but also tend to be egalitarians; they may have two levels of Status plus or minus but seldom have either Rank or Wealth.

A few official positions carry more status. Heads of national or Incorporate states are automatically Status 7; heads of colonial governments or autonomous communities are Status 6, as are GEO Marshals. This usually doesn't apply to native communities, most of which have councils rather than chief executives.

Currency Exchange

To simulate the problems of multiple currencies, without working out all the details of international monetary relations, use the following simple rules. When travelers move to a new location, they choose an amount of funds to convert. They then have three options. If they go to an official bank or exchange, subtract 2% from the funds converted, to represent fees and administrative expenses. If they go to legal currency markets, adjust the balance up or down 1% per point of success or failure on a roll against Merchant-5. If they go to a black market, adjust the balance up or down 2% per point of success or failure on a roll against Streetwise-2. If they then return to the same location, no roll is required to change back; if they go on to a new location, a new roll is required.

Job Table

The following table lists a variety of jobs suitable for Poseidonians. Referees should add other jobs to suit the needs of their players and campaigns. Qualifications for jobs are defined in terms of professional templates; for example, an undercover police officer needs Advanced Law Enforcement and Basic Spy. Note that people in native communities don't see much cash; the "income" from their jobs mostly represents goods and privileges rather than money.

Job (Professional Templates), Monthly Income	Success Roll	Critical Failure
Poor Jobs		
Ecoterrorist or Native Insurgent* (Basic Soldier, Spy, Survivalist), $50 × IQ	Acting or Stealth	2d/4d or prison term
Thug* (Basic Muscle and Gangster), $50 × ST	Streetwise	2d/4d
Struggling Jobs		
Burglar* (Advanced Burglar), $100 × IQ	Streetwise	-2i/arrested
Dancer* (Advanced Entertainer: Dancer), $100 × Dancing	Dancing	LJ
Enforcer* (Advanced Muscle), $100 × Intimidation	Streetwise	2d/4d
Freebooter* (Basic Muscle and Naval Crew), $100 × Intimidation	Seamanship	-2i/-2i, 3d
Journalist* (Basic Scholar and Spy), $100 × Writing	IQ	-2i/1d
Miner* (Basic Survivalist and Technical), $100 × Prospecting	HT	-3i/LJ
Native Patrol (Basic Law Enforcer and Survivalist), $100 × Administration	Sense	2d/LJ
Pioneer* (Basic Colonist and Survivalist), $100 × Agronomy	HT	-2i/LJ
Private Investigator* (Basic Investigator and Trader), $100 × IQ	Criminology	-3i/2d
Sailor (Basic Naval Crew and Technician), $75 × Seamanship	Seamanship	1d/LJ
Whalesong Mystic (Basic Survivalist, Advanced Whalesong Mystic), $100 × Performance/Ritual	Theology	-2i/LJ
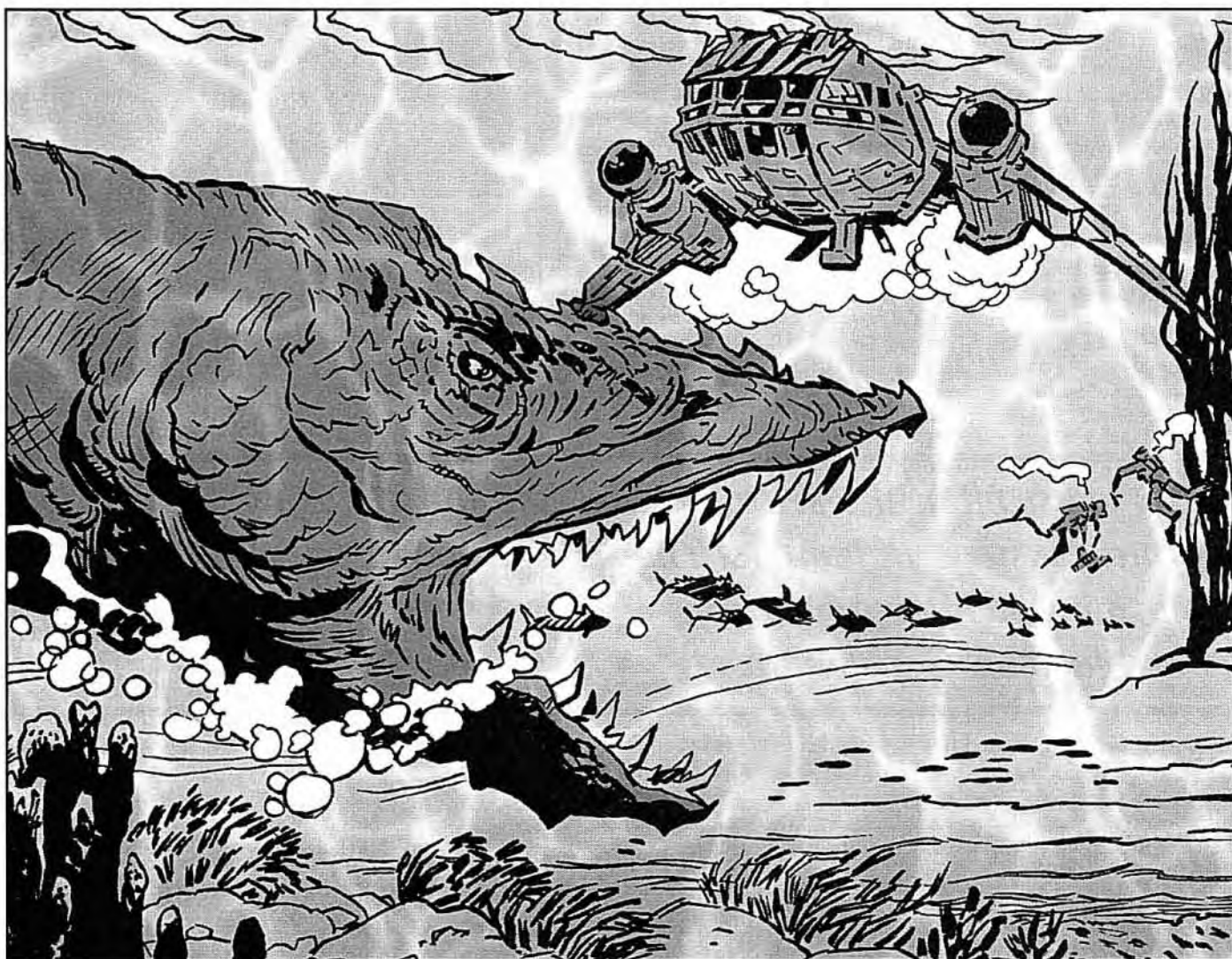
Job (Professional Templates), Monthly Income	Success Roll	Critical Failure
Average Jobs		
Bush Pilot* (Basic Pilot, Survivalist, Technician, Trader) $200 × Piloting	Piloting	-2i/-2i, 2d
Colony Leader* (Basic Survivalist and Advanced Colonist), $150 × Agronomy	Leadership	-2i/LJ
GEO Patrol (Basic Investigator and Law Enforcer), $2,000	Criminology	-2i/2d
GEO Peacekeeper (Basic Soldier and Survivalist), $1,000 × (Military Rank + 1)	HT	2d
Guide* (Advanced Survivalist; Leadership skill), $200 × Leadership	Survival	-2i/2d
Military Medic (Basic Administrator, Basic Doctor), $2,500	First Aid	-1i/2d
Native Healer (Basic Doctor and Survivalist), $1,500	Diagnosis	-2i/LJ
Opportunist* (Basic Gangster and Trader), $150 × Fast-Talk	Streetwise	-3i/2d
Repairman* (Basic Technician and Trader), $150 × Technical Skill	IQ	-2i/2d
Spacer (Basic Technician, Advanced Space Crew), $200 × Electronics Operation/Mechanics	IQ	1d/3d
Teacher (Basic Administrator, Basic Scholar, or Scientist), $200 × Teaching	Teaching	-2i/LJ
Trader* (Basic Administrator and Trader), $200 × Merchant	IQ	-1i/-4i
Warden* (Basic Law Enforcer, Advanced Survivalist), $200 × Law	Survival	-2i/2d
Comfortable Jobs		
Anthropologist (Basic Survivalist, Advanced Scholar), $300 × Anthropology	HT	1d/2d
Contract Killer* (Basic Gangster, Advanced Spy), $400 × Streetwise	Shadowing	2d/4d
Doctor (Basic Administrator or Trader, Advanced Doctor), $400 × Diagnosis	Diagnosis	-2i/2d
Engineer (Basic Scientist, Advanced Technician), $350 × Electronics or Engineer	IQ	-2i/2d
Field Researcher (Basic Survivalist, Advanced Scientist), $350 × Science	HT	1d/3d
GEO Marshal (Basic Administrator, Investigator, and Soldier and Advanced Law Enforcer), $2,500 + $500 × Administrative Rank	Streetwise	2d/4d
GEO Shock Trooper (Basic Soldier and Survivalist + GEO Shock Trooper "racial" template), $5,000	DX	2d/4d
Hacker* (Basic Burglar, Advanced Technical), $500 × Computer Programming	Streetwise	-3i/2d
Incorporate Security (Basic Administrator and Advanced Investigator, Law Enforcement, Soldier, or Spy), $4,000	IQ	1d/LJ
Intelligence Agent (Basic Diplomat, Advanced Spy) $4,000	Acting	1d/3d, reassigned
Laboratory Researcher (Basic Technician, Advanced Scientist), $400 × Science	IQ	1d/3d or LJ
Mercenary Soldier (Basic Muscle and Advanced Cetacean Military or Soldier), $400 × Tactics	HT	LJ/4d
Military Pilot (Basic Soldier, Advanced Pilot), $3,000 + $500 × Military Rank	Pilot	1d/3d
Outfitter* (Basic Survivalist, Advanced Trader), $300 × Merchant	Merchant	-2i/-6i
Professional Athlete (Basic Colonist, Advanced Athlete), $500 × best professional skill	HT	1d/3d
Smuggler* (Basic Gangster, Advanced Pilot), $400 × Streetwise	Piloting	-2i/LJ

> *We must plant the sea and herd its animals using the sea as farmers instead of hunters. That is what civilization is all about – farming replacing hunting.*
> — Jacques Cousteau

Job (Professional Templates), Monthly Income	Success Roll	Critical Failure
Wealthy Jobs		
Genetic Engineer (Advanced Doctor and Scientist), $800 × Genetics	Genetics	LJ/10-point disadvantage
Mining Engineer (Basic Executive, Advanced Technician), $1,000 × Engineer	Engineer	2d/LJ
Mob Boss* (Advanced Executive and Gangster), $1,000 × Administration	Streetwise	-6i/3d or arrested
Research Administrator (Advanced Administrator or Executive, Advanced Scientist), $600 × Science	Politics	-3i/LJ
Rock Star* (Advanced Entertainer: Musician, Basic Trader) $500 × Cyberaxe, Musical Instrument, or Singing	Best PR	LJ

* Indicates a freelance job (see p. B193).

GEAR
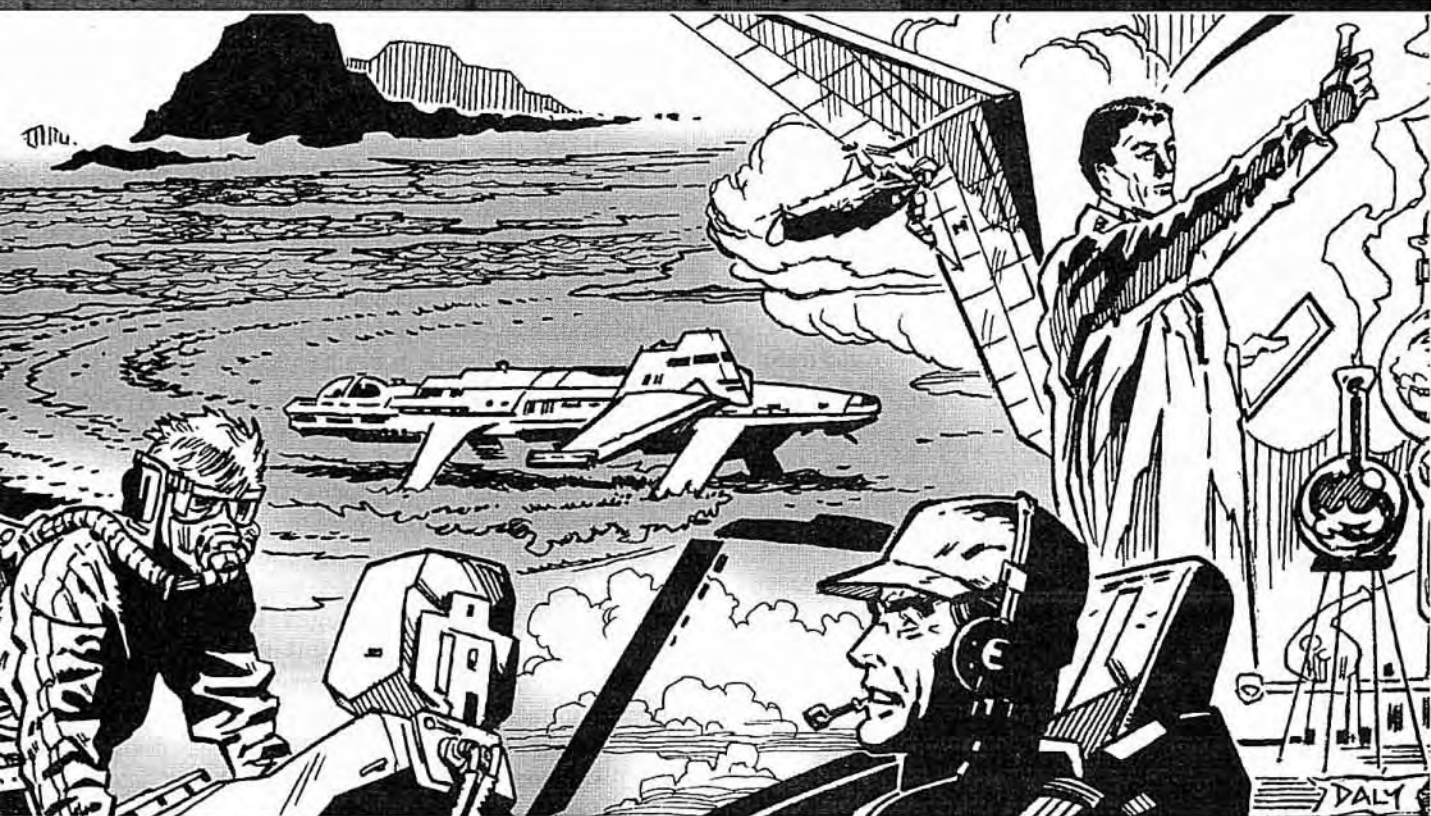
In *GURPS* terms, Poseidon is basically TL9, with some quirks. More specifically, it's a "hard science" version of TL9 (as defined on p. UTT6). Some common science-fictional technologies either don't exist or aren't commonly available: beam weapons, force-field technology, gravity control, and power cells, among others. Faster-than-light drives don't exist; FTL travel between Earth and Poseidon is made possible by a wormhole which no human scientist or engineer can duplicate. At the same time, computer technology has advanced much faster than in the standard system of TLs.

Native communities lost most of their advanced technological capabilities during the period of isolation, though they retained some of the underlying scientific knowledge. Native-made devices average TL5, but are seldom powered by fossil fuels; wind and water are more common. However, a native community may have some imported TL9 devices as well.

GURPS Blue Planet can be used with existing "tech" supplements, such as *GURPS Vehicles*, with a little caution. Throughout this chapter, *Notes* sections provide guidance for the GM wishing to use other supplements in a Poseidonian campaign.

Descriptions of devices may include any of the following:

Complexity: The functional sophistication of a computer or automaton. The lowest possible Complexity is -2, for a simple clock, lock, or similar device; the lowest Complexity for a computer is 1.

Power: The power consumed by the operation of the device, if it is not self-powered.

Legality Class (LC): Which weapons and armor are legal to own.

Weight: The weight of the device in pounds.

Volume: The volume of the device in cubic feet.

Cost: The cost of buying or making the device, in corporate scrip (see p. 38). This is the list price for a factory-built model.

Weapons and vehicles have more elaborate statistics.

Materials

Many objects on Poseidon are made of bioplastic, an organic polymer produced by engineered bacteria. To make a part, a nutrient bath is injected into a suitably shaped mold. The bath is infected with tailored bacteria, which convert the nutrients into bioplastic and die off after their food supply is used up. The color, texture, and density can be adjusted, sometimes by choice of bacterial strain, sometimes by chemical additives. Density ranges from 5 lbs./cf for foamed bioplastic used in floats and rafts up to 125 lbs./cf for structural bioplastic.

Note: When used for armor, bioplastic is classified as TL9 composite armor (pp. VE21-22). Laminate armor may combine bioplastic with ceramics or even metals.

Power Systems

Poseidonian equipment uses three main power sources. Large power plants in fixed bases or extremely large vehicles have fusion systems. Most vehicles and small households or settlements use fuel cells. Small vehicles and personal equipment typically use batteries.

Batteries

Batteries are room-temperature superconductors made from exotic ceramic compounds. 0.001 lb. per kWs; 0.01 cf per lb.; $30 per lb. Standard sizes are heavy (3,000 kWs), standard (200 kWs), mini (30 kWs), micro (3 kWs), and nano (0.03 kWs). For example, a heavy battery weighs 3 lbs., occupies 0.03 cf, and costs $90.

Note: This is exactly equivalent to TL8 "advanced batteries" (p. VE88).

Fuel Cells

Fuel cells are power plants in which the chemical energy of oxidation is converted directly into electricity, rather than into thermal energy that is used to run a heat engine. The usual fuel is hydrogen, which turns into water vapor, yielding hot water or steam as a byproduct. A fuel cell continues to operate as long as it is supplied with fuel: 0.075 lbs./hour of hydrogen per kW of output. 2.25 lbs. per kW; 0.016 cf per lb.; $100 per kW. The minimum practical size for a fuel cell is 20 kW.

The hydrogen for a fuel cell is typically stored in a very dense state within a fuel module filled with carbon nanotubes: 5 lbs., 0.048 cf, and $27 per 1 lb. of hydrogen capacity. A typical fuel module holds 15 lbs. of hydrogen, weighs 75 lbs., occupies 0.72 cf, and costs $405.

Fuel cells normally take oxygen from the air, but it can also come from an oxygen storage module. A fuel cell needs 8 lbs. of oxygen per 1 lb. of hydrogen. An oxygen storage module is 0.3125 lbs., 0.003 cf, and $1.69 per 1 lb. of oxygen. A typical oxygen storage module holds 240 lbs. of oxygen, weighs 75 lbs., occupies 0.72 cf, and costs $405. Thus, a standard, self-contained fuel supply has three modules weighing 225 pounds, and holding 30 lbs. of hydrogen and 240 lbs. of oxygen, for a total of 495 lbs. in 2.16 cf, costing $1,215.

For weight-critical applications, an older, lighter fuel storage technology remains in use. A cryogenic tank holding 15 lbs. of liquid hydrogen weighs 20 lbs., occupies 4 cf, and costs $195. A cryogenic tank holding 240 lbs. of liquid oxygen weighs 20 lbs., occupies 4 cf, and costs $195. A standard tank has DR 3 and 15 HP; if it suffers damage exceeding 10% of its HP, it catches fire on a roll of 10 or less on 3d. A self-contained fuel supply in tanks weighs 60 lbs. and hold 30 lbs. of hydrogen and 240 lbs. of oxygen, for a total of 330 lbs. in 12 cf, costing $585.

A refill for either type of fuel system costs $0.175 per pound of hydrogen and $0.01 per pound of oxygen.

Notes: These fuel cells are not equivalent to those on p. VE85; they weigh much less in proportion to their power output. Since the hydrogen they use normally comes from fuel modules, where it is not stored in a liquid state, their fuel consumption is measured in pounds rather than gallons.

To compare cryogenic tanks with the designs in *GURPS Vehicles*, note that a gallon of liquid hydrogen weighs 0.58 lbs., so the 15 lbs. in a standard cryogenic tank equal 25.8 gallons; designed as a self-sealing tank from *GURPS Vehicles* (p. VE89), this would weigh 25.8 lbs., take up 3.87 cf, and cost $129. *GURPS Blue Planet* tanks weigh less and cost more, being made of special-purpose bioplastic.
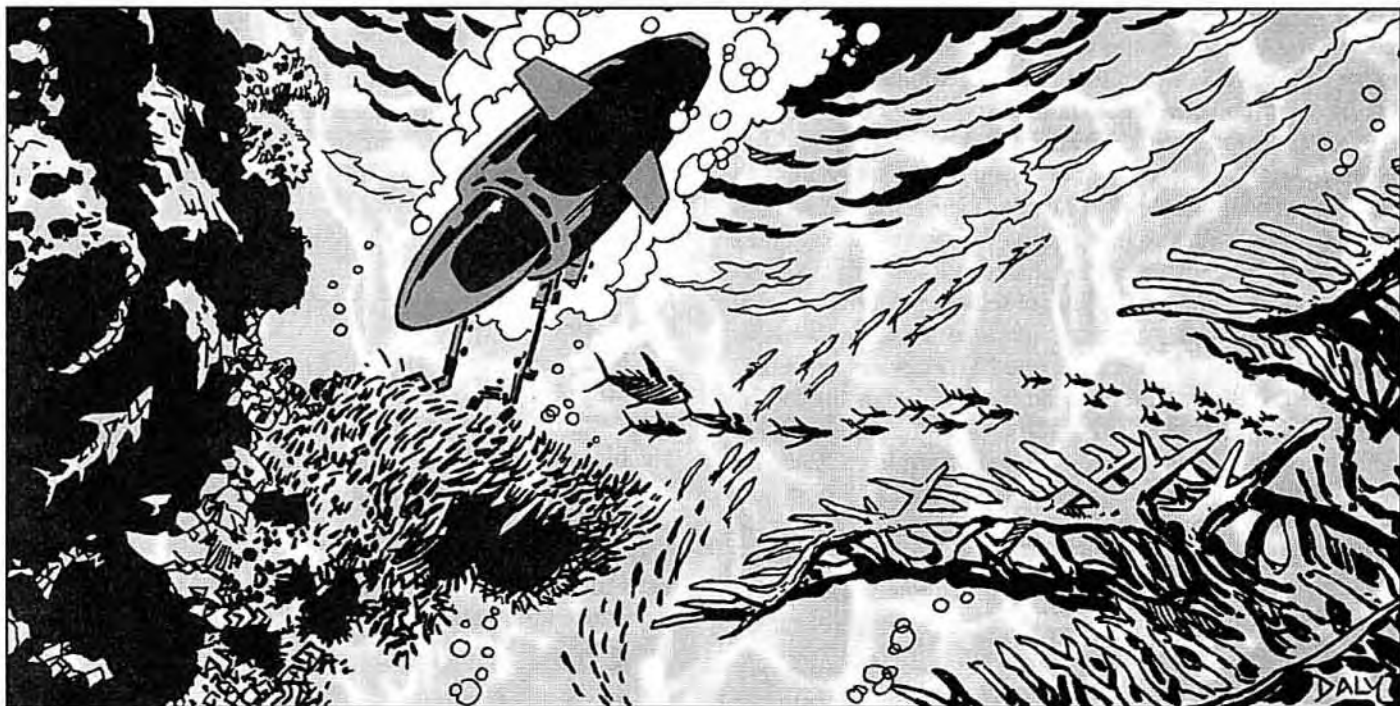
Interfaces

A variety of technological options improve or refine user interface with mechanical devices.

Access Chips

A basic access chip is a dedicated small card programmed to understand and respond to a range of simple code phrases. It runs a damage control program for a specific device in which it is implanted. Routine users gain basic information on the device's functional state (are its batteries running down, is it out of ammunition, etc.); technically skilled users gain +2 to the skill that is used to maintain and repair the device. Basic chips take up 0.0001 cf and cost $4; they are routinely built into nearly every electronic or mechanical device.

An interactive access chip is much more sophisticated, being able to communicate in a natural human language, understand some slang, and make simple logical conclusions. It does everything a basic chip does and also gives +1 to a user's skill in operating the device; in the hands of an unskilled user it can exercise skill 12 for routine operations. For example, an interactive access chip could be told "Camera, maximize the visibility of the object at lower left." An interactive access chip is a dedicated tiny computer. 0.125 lbs., 0.0025 cf., $20.

An operator or technician working with devices that lack access chips makes skill rolls at -2 due to penalties for unfamiliarity.

Manual Interface

A manual interface is essentially a computer terminal, with a keypad, visual display, pointer device, microphone, and speaker. A basic model weighs 2 lbs., occupies 0.1 cf, and costs $50. High-end interfaces can cost $1,000 or more.

Head-Up Display

A head-up display, or HUD, is a holographic image projected into the visual field. By making information available rapidly, it gives +1 to any skill where this is important, such as Driving or Piloting. A similar bonus applies to Tactics skill when the unit commander is electronically linked to the other members of the unit.

A standard HUD is designed for incorporation into a helmet (see p. 47). Separate units are also available. A standard battery provides power for 2 months of operation. 0.5 lbs.; $9,400. A design camouflaged as a soft cap is available for twice standard cost.

Trodes

Trodes are sensitive electrodes mounted on a headset. They detect the electrical activity of the user's brain and translate it into computer instructions. Any actions the user thinks of are carried out almost instantaneously by the device the trodes control. The use of trodes gives +2 to any skill for which fast reactions are important. 0.5 lbs.; 0.03 cf; $1,200.

Neural Interface Jack

The cost and capabilities of a neural interface jack are discussed on pp. 34-35.

Computers

Computers are available in a wide range of sizes, and with varied options. Select from the following table:

Type of computer	Wt. (lbs.)	Vol. (cf)	Cost	Power (kW)	Complexity
Megaframe	12,500	250	$6,250,000	100	10
Macroframe	2,000	40	$1,000,000	10	9
Mainframe	250	5	$100,000	1	8
Microframe	100	2	$20,000	0.1	7
Minicomputer	20	0.4	$7,500	–	6
Small computer	1	0.02	$500	–	5
Tiny computer	0.25	0.005	$100	–	4
Large card	0.05	0.001	$40	–	3
Small card	0.01	0.0002	$20	–	2
Options					
Compact	×1/2	×1/2	×2	×1	–
Dedicated	×1/2	×1/2	×1/5	×1	–
Dumb	×1	×1	×1/5*	×1	-1
Genius	×1	×1	×20**	×1	+1
Hardened	×3	×3	×5	×1	–
High-Capacity	×1	×1	×1.5	×1	–
Neural-Net	×1	×1	×2	×1	–
Robot Brain	×1	×1	×1	×1	–

* For small and tiny computers and large and small cards, Dumb multiplies cost by 1/20.

** For minicomputers and microframes, Genius multiplies cost by 7.

Complexity is a rating of the sophistication of the programs a computer can run. A standard computer can run two programs at its

Complexity rating. A system of Complexity 2 or higher can be programmed in a symbolic language. A system of Complexity 4 or higher can interpret a natural human language and perform limited personality simulation (one disadvantage and up to five quirks). A system of Complexity 5 or higher can perform full personality simulation. For certain purposes, a computer can be defined as having IQ equal to its Complexity +3 (Complexity +4 if it has the Neural-net option).

The various options have the following effects:

Compact: The computer is smaller and more expensive.

Dedicated: The computer is hardwired for specific programs and cannot be reprogrammed.

Dumb: The computer is less sophisticated.

Genius: The computer is highly sophisticated, with state-of-the-art processing technology.

Hardened: The computer is built with mechanical, optical, or other systems that resist electromagnetic pulse.

High-Capacity: The computer can run three programs at its Complexity, rather than two.

Neural-Net: The computer is built to simulate the functioning of a human or animal brain, giving it the ability to program itself and gain new skills. This raises its effective IQ to Complexity +4. Though Neural-Net is listed as an option, it is actually standard for general purpose (non-Dedicated) computers.

Robot Brain: The computer is designed to control a vehicle, remote device, or other system capable of physical movement. One of its program slots is taken up with a body control function that lets it perceive, move, and manipulate. It has an effective DX of (Complexity/2) + 8.

In the *Blue Planet* setting, no sentient computers have been built, and no computer has ever spontaneously attained sentience. However, computers at Complexity 6 and above with the Neural-net option can learn to interact with users in a way that makes them appear sentient.

Standard Models

Maincomp: The standard vehicular or desktop computer, used as a closed system or to provide network access in an organization. A minicomputer with the Neural-Net option. Complexity: 6. IQ: 10. 20 lbs.; 0.4 cf; $15,000.

Bodycomp: The standard personal computer, small enough to carry in a pocket. A tiny device with the Neural-Net option. Complexity: 4. IQ: 8. 0.25 lbs.; 0.005 cf; $200.

Advanced Bodycomp: A personal computer for wealthy people and technophiles. A large card with the Compact, Genius, and Neural-Net options. Complexity: 4. IQ: 8. 0.025 lbs.; 0.0005 cf; $3,200.

The user interface must be bought separately (see p. 29).

Data Storage

Computers rely on DNA as a medium for data storage. The resulting memory capacity is enormous; memory capacity is measured in terabytes rather than gigabytes (1,000 times greater). DNA-based memory is maintained and altered by enzymes in artificial living cells, which need small quantities of power and nutrients; if either is interrupted, the database will be lost within a few minutes. (This is effectively a DNA computer system as described on p. BIO13.)

Some examples of data storage requirements:

Blueprints/schematics

Space station complex	1
Spaceship	0.1
Large robot	0.01
Motorcycle	0.001
Human genetic map	0.002

Library

Branch or school	0.1
City or liberal arts college	1
Major city or university	10
Copyright or research archive	100
Navigation charts, world	1
Passive sonar database	01

Program

Complexity 1	0.00001
+1 Complexity	×10
Sensory recordings, 1 hour	0.5

Communications and Electronics

A few Poseidonian communities have had time to set up internal fiber optic networks, but many have not, and no one has laid down fiber optical cables between islands. Most communications devices use radio, typically in microwave frequencies, which allow a higher bit rate.

Personal Communicator

A personal communicator may be handheld or designed as a light headset. Most units are voice-activated. Versions that can pick up subvocalizations or bone conduction signals are readily available. Effective range is 10 miles; this can be increased by a roll against Electronics Operation (Communications) skill at -1 per extra mile, to a maximum of 20 miles. A mini cell provides power for a year of moderate use. 0.06 lbs.; 0.001 cf; $140.

Uplink Communicator

An uplink communicator is a long-range radio transceiver optimized for relaying signals to communications satellites. Numerous comsats orbit Poseidon, though weather, malfunctions, and constantly changing security protocols can impede communication; a roll against Electronics Operation (Communications) skill is needed to get a message through. 3.5 lbs.; 0.07 cf; $1,400.

Sensors and Scientific Equipment

Broad-Spectrum Visor

A set of visor-style sunglasses combining anti-glare, light intensification, and infrared vision functions. The light intensification function eliminates low-light Vision penalties except in total darkness. The infrared function reduces low-light Vision penalties to -1 and makes it possible to see and target heat sources even in total darkness; human beings, active machines, and gunshots are all heat sources. Works for 2 months on a mini cell. 0.5 lbs.; 0.005 cf; $460.

Digital Binoculars

A set of electronic binoculars that provide an extremely sharp image. Magnification is up to ×20 (+4 to Vision to locate an object, +8 to examine a located object). Binoculars include the same light amplification and infrared functions as a broad-spectrum visor, and work for 2 months on a mini cell. 0.75 lbs.; 0.03 cf; $770.

Parabolic Microphone

Parabolic sensors offer the ability to focus one's hearing on a specific sound, which can be heard at up to ×4 the normal range. A mini cell provides power for 2 months. 0.5 lbs.; 0.01 cf; $2,500. Often combined with a broad-spectrum visor in a configuration called a sensor array.

Security Monitor

A security monitor, or watchdog, is a small sensor linked to an alarm signal device. Short-range radio transmitters are standard, but a watchdog can also be designed to make a loud noise. Military models can be designed to emit a trigger pulse that sets off a weapons system.

The usual sensor function is passive infrared, but passive sonar and ground vibration sensors are also available. Some watchdogs respond to specific chemical substances. A group of watchdogs can be used to set up a border or perimeter. The user can specify how close an approach will trigger the watchdog, from 3 to 20 yards, and can also limit its sensitivity to one side of a perimeter.

A mini battery powers a watchdog for up to four months. 0.5 lbs.; 0.005 cf; $570.

Sonar Transceiver

A portable sonar transceiver is used primarily for underwater activities. Carried in the hand or attached to the head or chest, the echoes of its ultrasonic pulses can be used to form images of the surroundings. Effective range is 200 yards under water, or 20 yards in air. Within a range of 1 yard it can penetrate solid objects with a density comparable to that of living tissue, giving +2 to Diagnosis and Holdout. A standard cell provides power for 4 hours. 1 lb.; 0.02 cf; $375.

Medical Gear

Biomonitor

A compact biological sensor with a dedicated computer. When pressed against soft, vascular tissue, it samples pulse rate, blood pressure, blood gases, and electrolyte and hormonal levels and informs the user of the patient's condition and treatment needs. This gives +1 to First Aid skill. On a successful Electronics Operation roll it also gives +3 to Diagnosis. 0.75 lbs.; 0.01 cf; $520.

Coagulant Pad

A thin sheet of surgical plastic coated on one side with adhesive, broad-spectrum antibiotics, and clotting factors. The antibiotic gives +4 to HT to resist infection; the clotting factors stop bleeding within 1d+4 seconds and restore 1 HT. Coagulant pads are easy to use – roll First Aid + 5. The use of coagulant pads with First Aid skill takes 5 minutes and restores 1d+1 HT; if they are not available, treatment defaults to TL8 First Aid (10 minutes and 1d HT restored). 0.12 lbs. and $50 per package of 12.

Cold-Sleep Capsule

An insulated chamber large enough to hold one human body, with equipment for lowering its metabolic rate through reduced temperature to produce a coma. Contains a dedicated computer to monitor the sleeper's physiological state. Used both for space travel as a means of reducing life support needs, and to keep ill or injured patients alive until medical care is available. 750 lbs.; 50 cf; $55,000. Power: 0.2 kW.

A more compact variation is the emergency stabilization unit (ESU), essentially a portable heart-lung machine. A Surgery roll is required to connect this to a patient. Large lines are inserted into a suitable vein and artery pair. The connection is used to lower the patient's temperature as for cold sleep. The patient's condition deteriorates while attached to the unit. Roll against HT every 6 hours; failure requires a roll against Physician-2 to prevent immediate death. On a critical failure, the patient cannot be disconnected from the pump and survive. There is a risk of brain damage; roll against Will, gaining -5 points of new mental disadvantages for each point of failure (memory loss is very common). Critical failure indicates that the patient never regains consciousness. 18 lbs.; 0.2 cf; $7,700. The unit's weight includes a heavy battery for power.

Ultrasonic Hypodermic

A small device that increases the permeability of the skin through ultrasonic vibration, letting drugs enter the bloodstream directly and painlessly (see box for some available drugs). The process is slower than traditional methods, requiring up to 30 seconds to administer a standard dose. A standard cell provides power for up to 2,000 injections. 0.5 lbs.; 0.009 cf; $270.

Drugs

A variety of pharmaceuticals that treat disease or enhance the body's functions are available on Poseidon, legally or illegally.

Antibiotics and Antivirals

Antibiotics usually treat bacterial infections; antivirals work against viruses. Most such drugs are effective against only one disease organism, giving +8 to HT rolls to resist disease. Broad-spectrum antibiotics give +4 to HT rolls against bacteria and fungi of terrestrial origin and +(1d-1) to resist a Poseidonian disease. $5 per dose; 2 doses daily for a week is standard.

Anti-Shock

Anti-shock medications are designed to prevent death from trauma. If a character is reduced to -HT hit points or lower and fails the basic HT roll, an immediate injection of anti-shock allows a new basic HT roll at +2. For each full minute before the injection is made, apply a -2 cumulative penalty; if 10 full minutes have passed, failure is automatic. If the new HT roll succeeds, a successful First Aid or Surgery roll stabilizes the patient and allows recovery to start; the patient will be incapacitated and semiconscious for 24 hours. $10 per dose.

Healing Booster

Healing boosters speed up the body's natural self-repair processes. Add 5 to effective HT for any roll to recover lost HT or get over a crippling injury. $55 per dose; standard dosage is 1 dose daily until the injury heals.

Pain Inhibitor

A dose of pain inhibitor confers High Pain Threshold (p. B20) for 5 hours. Its use can become addictive; this is a -10 point Addiction. $45 per dose.

Reflex Serum

A dose of reflex serum grants both Hyper-Reflexes and Hyper-Strength, at a cost of 1 Fatigue/turn. The user suffers no fatigue penalties until Fatigue is reduced to 0, but then collapses and must regain Fatigue normally. Its use can become addictive; this is a -30 point addiction, and crimes committed under the influence carry severe additional penalties. $350 per dose.

Life Extension Drugs

One of the mechanisms of aging in animals is the accumulation of errors in the genetic code, leading to metabolic failures. Xenosilicates were found to prevent this genetic decay and thus arrest the aging process. Several treatments a year are required; each treatment's effects last 1d months, during which the recipient has no need to make aging rolls. Simple monthly biochemical tests can determine when the effects wear off. Even on Poseidon, such treatments cost $5,000 each; on Earth, $50,000 is a typical price. The longevity effect is the source of the common nickname for xenosilicates, Long John.

During experiments aimed at developing a synthetic substitute for Long John, Biogene developed a compound known as anti-senescence serum or Auntie Susie. Unfortunately, the compound has side effects that make it a poor substitute for Long John. Each dose of Auntie Susie is effective for 1d months, as for Long John. During that time, aging rolls are required. On a 16 or less, aging effects are avoided. On a 17, the user develops a major metabolic disorder leading to death within 1d months if not treated; treatment requires a roll against Physician skill and costs 1d × $5,000. On an 18, the user experiences catastrophic metabolic failure, leading to death within 12 hours if not treated; treatment requires a roll against Physician-5 and costs 1d × $50,000.

Because of these problems, Biogene decided not to release anti-senescence serum. However, the specifications have been released and are now widely known. Auntie Susie is highly illegal, but can be located with a roll against Streetwise-5 at a price of 1d × $100 per dose, or through a suitable Contact. Sellers make no guarantees of its effects, and medical insurance does not cover treatment of side effects; seeking treatment at a hospital or clinic guarantees being reported to legal authorities, though a private physician may be more cooperative.

Wound Glue

A preformulated mixture of surgical adhesive, antibiotics, and artificial skin cells in a dormant state. Each tube is good for 10 applications, which require a roll against First Aid + 1. Success gives +1 to the healing effects of First Aid (i.e., a minimum of 2 points healed) and increases the healing from any successful HT roll from 1 to 2 points. 0.125 lbs.; 0.002 cf.; $35.

Survival and Protective Gear

Armor

A variety of body armor is available on Poseidon, from light, tough bioplastic to laminated plastic/ceramic body armor. The following types are commonly available:

Helmet: Made of rigid biopolymer, a combat helmet protects the head and neck with PD 4, DR 12. A PD 2, DR 8 transparent visor can be lowered to shield the face. The standard model provides space for a head-up display and a filter mask. LC 5. 2 lbs.; $550.

Light Vest: Woven from bioplastic polymer, this tough fabric is flexible, fairly comfortable, and readily hidden under clothing. It protects hit locations 9, 10, 17, and 18. PD 2, DR 4 (PD 1, DR 2 vs. imp), Holdout -2, LC 5. 2.5 lbs.; $300.

Heavy Vest: Similar to the light vest, but thicker and more obvious. PD 2, DR 6 (PD 1, DR 3 vs. imp), Holdout -3, LC 5. 3.75 lbs.; $500.

Reinforced Vest: Similar to the heavy vest, but has integral plastic plates and cannot be worn under ordinary clothing. PD 2, DR 12 (PD 1, DR 4 vs. imp), LC 5. 7.5 lbs.; $830.

Combat Armor: Basic combat armor is a full-body suit made up of laminated plastic/ceramic plates. It protects hit locations 6-18. PD 6, DR 16, LC 3. 17.5 lbs.; $5,000.

Diving Gear

Gear for underwater operations is in common use on Poseidon and comes in a variety of forms with different advantages, disadvantages, and costs. All of the various suits are assumed to be full-body versions.

Artificial Gill: The gill pack, or artificial gill, allows non-aquaforms to stay under water for extended periods. A small backpack holds a semipermeable membrane that exchanges gases with the surrounding water; the wearer breathes through a face mask. A standard battery supplies power for 20 hours. 4.5 lbs.; 0.15 cf.; $250.

Diving Mask: A diving mask provides an airtight face plate that can be linked to an artificial gill or rebreather, plus a holographic display for a sonar transceiver (see p. 45). It can be worn with a drysuit or gillsuit. 1.5 lbs.; 0.9 cf; $50.

Drysuit: The drysuit is a dual-purpose garment: it can be worn as loose-fitting, comfortable clothing, but a low-powered electric current can switch the material to a tight weave that keeps water out. Two standard batteries can power heating elements for up to an hour, if needed. When submerged, use the thermally neutral range for exposure to air rather than water (see p. 39); each point of Temperature Tolerance extends this by HT degrees. Integrated solar cells on the back recharge the batteries. Drysuits come in varied colors and patterns and are commonly worn as everyday clothing in some communities. 6-12 lbs.; $230 for a basic suit. Fashionable designs can cost up to ten times as much, at the GM's discretion.

Gillsuit: The gillsuit is a more advanced technology for underwater operations, but is simpler to use than the drysuit. The suit is made up of layers of osmotic fabric that extract oxygen from the water, storing it in numerous bladders that automatically inflate or bleed off oxygen to maintain neutral buoyancy as pressure changes. No power source is required; the movements of the wearer's body activate the gill system and also generate small amounts of electrical power to operate the suit's control systems.

The wearer is still restricted by decompression requirements, but a gillsuit's rebreather can be refitted to use helium in place of nitrogen.

Medical Treatment

First aid and medical care are firmly established at TL9 (see pp. B127-129), and experimental treatments, often based on xenosilicates, offer TL10 prototypes, though these are costly, risky, or both. Genetic manipulation makes it possible to regrow entire limbs or organs. Regenerative healing costs $1,000 per 1% of body weight regrown. If a vital organ needs to be replaced, making life support necessary while it regrows, double the cost involved. Regrowth times range from two weeks for a small body part such as a finger or earlobe to six months for restoration of a large part of the body. As a result of regeneration, most physical handicaps can be eliminated; only the poor, religious extremists, and natives isolated from Earth civilization are likely to have such handicaps.

Similarly, a detailed understanding of brain chemistry means that most emotional problems can be treated. Mental disadvantages that reflect such problems, including Paranoia, Phobia, and Split Personality, are extremely rare. A person's emotional makeup can be adjusted by a "mind-job," though this does not turn people into obedient robots; a hedonist mind-jobbed into a grim fanatic might become fanatically opposed to interference with brain chemistry, for example. Disadvantages that reflect personal convictions, such as Honesty and Pacifism, still exist, as do voluntarily acquired disadvantages such as Addiction and Alcoholism.

Physical appearance can also be medically modified. Height can be adjusted by up to 6" and weight can be increased or decreased by up to 20%. Appearance can be made one step more attractive (see p. B15), or fully functional sex reversal can be achieved. Such procedures cost $5,000-$50,000 depending on the extent of the modifications. Acquisition of a tissue sample makes it possible to reshape a person into someone else's likeness, though Acting skill is needed to carry off any serious impersonation; this procedure costs $70,000 and is quite illegal.

Gillsuits are well insulated against heat loss, and in cold water they can provide extra heat from thermal wiring for up to half an hour. Extend the thermally neutral range downward by 20°F for non-Amphibious wearers; each point of Temperature Tolerance extends this by HT/2 degrees. There is no benefit for Amphibious wearers. They also have modest armor value: PD 1, DR 2 on all locations.

Gillsuits are relatively expensive and have not yet replaced artificial gills and dry suits for short underwater operations. For longer operations they come into their own, especially on the frontier, where the user's independence from a power supply is a major asset. The culture of gill suit use favors a simple, utilitarian design that makes them less attractive for recreational divers. 12.5 lbs.; $3,200.

Hardsuit: The hardsuit amounts to a one-person submersible, designed to maintain an internal pressure of 1 atmosphere, eliminating the problem of decompression. The standard model can withstand depths up to 120 yards. An artificial gill supplies oxygen and the interior of the hard suit is maintained at a thermally neutral temperature as long as the power holds out. Six heavy batteries are good for 2.2 hours at full operation or more than a full day if restricted to life support functions.

The utter silence of the depths lay upon us like a benediction.
– Jacques Cousteau

Full operation includes an active sonar with a range of one-half mile and a magneto-hydrodynamic (MHD) tunnel (see p. VE32) that propels the suit at 4 mph (Move 2). The suit can also function as powered armor, with arm and leg servomotors supporting its weight and giving +2 to the user's ST over and above this. The manipulators on the arms are somewhat clumsy, giving -4 to DX for manual tasks.

A standard suit will fit wearers weighing 140-175 lbs. Its flotation capacity is 375 lbs. Advanced laminate armor gives it PD 3 and DR 10. 170 lbs.; $45,000.

Rebreather: Despite the advantages of artificial gills, some divers still rely on older, closed-circuit rebreathing systems. A standard rebreather is a 2 cf hardshell backpack (DR 2) holding two air tanks – one with pure oxygen for diving at less than 30 feet and one with a nitrogen-oxygen mix for dives down to 100 feet. The tanks are sufficient for dives of up to 9 hours, with some of that time taken up by decompression stops if the diver is down longer than 45 minutes. The system is normally neutrally buoyant in the water but it can be adjusted up or down. 21 lbs.; $230.

Filter Mask

The filter mask uses activated charcoal and electrostatic precipitation to protect the user from most airborne chemical toxins. It can also heat or cool air to a comfortable temperature. Power comes from a standard battery that is good for 60 hours of use. 0.7 lbs.; 0.0375 cf; $140.

Fire Paste

A quick way of starting a fire, fire paste comes in small blocks of a puttylike substance. Pulling a tab triggers an integrated igniter; after 5 seconds the paste starts burning. A block will readily ignite other flammables or will burn on its own for 30 minutes, providing heat equivalent to a small cooking fire. 1.25 lbs., 0.016 cf, and $7 per block.

Locator Beacon

A small, high-powered radio transmitter that generates a telemetry signal to guide potential rescuers; it may be programmed to go off only when triggered, or automatically after a certain number of hours (a favored option for children). A standard battery provides power for 50 hours of operation. The signal can be detected within a 100-mile radius. 0.3 lbs.; 0.004 cf; $25.

Magneto-Hydrodynamic (MHD) Harness

The MHD harness uses the same technology that propels submersibles and other watercraft, but with energy from a heavy battery that does not need an oxygen supply (see p. VE32). It can propel a swimmer at 4 mph (Move 2) for up to 6 hours. 12.5 lbs.; $420.

Navigation Suite

The core of a nav suite is a dedicated, hardened Complexity 4 computer linked to a map database for a given region. It also includes a magnetic compass and an inertial tracking system that give the user the equivalent of Absolute Direction and measure distances to an accuracy of 1 yard per 1,000 miles. If a navigational satellite is above the horizon, a built-in uplink communicator functions as a global positioning system, enabling the user to determine his exact location; however, hostile action or bad weather can prevent this function from operating. A mini cell provides power for a year of operation. 2.5 lbs.; 0.06 cf; $400.

Rescue Ball

A rescue ball is a tough bioplastic sphere large enough to hold one human adult. It is normally carried packed in a small satchel; pulling it out inflates it so that the user can enter and then activates a bacterial culture that converts exhaled carbon dioxide to oxygen. A heavy battery supplies power for 80 hours of life support. 13 lbs.; 0.16 cf deflated, 65 cf inflated (5' diameter sphere); $1,300.

Survival Plastic

Woven from bioplastic fibers, survival plastic comes in large sheets that are silvered on one side and camouflage-patterned on the other (-2 to Vision rolls in the intended environment; +2 in contrasting environments). The material can be cut with a sharp knife or melted with a heated metal tool. Simple sheets can be used as blankets or sunshades; many other uses are possible. A 100 square foot sheet weighs 2 lbs., costs $100, and fits into a 0.03-cf container weighing 0.2 lbs.

Water Purifier

A device for extracting salts, organic contaminants, and particulates from water. Contains a semipermeable membrane that can process 90 pints of water before needing replacement. 0.5 lbs.; 0.016 cf; $65.

Cetacean Technology

A wide variety of human-usable devices also exist in cetacean-usable versions. A few special-purpose devices enhance the capabilities of dolphins and orcas in various ways.

Artificial Gill

Artificial gills are available sized to fit dolphins and orcas, and configured for their blowholes. Because they have higher metabolic demands, they need more batteries: dolphin models have two slots and orca models have five for 20 hours of operation.

Dolphin Artificial Gill: 5 lbs.; 0.15 cf; $500.
Orca Artificial Gill: 10 lbs.; 0.33 cf; $1,500.

CICADA

A CICADA (cybernetic interactive cetacean activity drone accessory) is designed to make up for the two major handicaps of cetaceans in dealing with humans and technology: their lack of manipulators and their inability to leave the water. It acts as a mitigator for the No Manipulators disadvantage (see p. 32) as glasses and contact lenses do for the Bad Sight disadvantage.

Cetaceans don't use sonic trodes to control CICADAs, they use their own sonar. Therefore, a CICADA cannot function outside the sonar range of its operator. Since cetaceans communicate with CICADAs at the speed of sound, increasing distance between operator and machine creates a time lag. Ordinarily, CICADAs are used to perform tasks where the time lag is not critical. However, cetacean military units often have armed CICADAs. Since the signals that control them are limited to the speed of sound, their operation is at -1 to skill per 200 feet between the CICADA and its user (-1 per 50 feet above the surface – sound travels slower in air).

A CICADA is made up of two parts: an aquatic sled and a hover drone.

The aquatic sled is effectively a miniature submarine. It can send and receive ultrasonic signals, providing it with active sonar within a 1-mile radius and also letting it communicate with its owner. In the event that a large group of cetaceans are using CICADAs in close proximity, each CICADA's computer has a neural-net-based sonar recognition program that causes it to respond only to its proper user. An MHD tunnel (see p. VE32) propels it through the water at Move 6 (12 mph). It has two ST 20 arms, retractable for greater speed. An onboard computer (Complexity 2, IQ 5, DX 9) enables it to function autonomously. Batteries store 60,000 kWs of power, sufficient for 7.5 hours of operation. Internal spaces provide storage for the hover drone and for up to 1 cf of cargo. It has PD 2, DR 2, and 6 hit points. 95 lbs. empty weight; 3.75 cf; $34,300.

The hover drone is effectively a tiny hovercraft, able to maintain an altitude of 2 feet above the land or water and to fly at Move 15 (30 mph). It has 360° visual sensors and can hear and speak in humanly audible frequencies. It has no onboard computer but has a short-range radio link with its sled. Batteries store 6,000 kWs of power, sufficient for 19 minutes of flight; it can recharge from the sled's batteries. It can also rest in an open sled compartment or on a solid surface and provide its owner with an eye, ear, and voice. It acts as a mitigator for the Mute disadvantage (see p. 32). It has PD 1, DR 1, and 1 hit point. 41 lbs.; 0.42 cf; $6,665.

For more information on how cetaceans control CICADAs, see *Teleoperation*, p. 57.

Solar Buoy

The solar buoy offers a source of electric power to cetaceans in pelagic environments, far from generators or fuel supplies. It is most often used to supply power to CICADA units. The output of one solar buoy can recharge four CICADAs a day in clear weather; in emergencies, its full charge of 1 million kWs can be drained.

A solar buoy is a hollow, saucer-shaped hull 7 feet in diameter; retractable panels increase its diameter to 10 feet in normal operation. Under tropical sunlight its output is 5.5 kW. It contains a sonar beacon detectable at up to 1 mile by cetaceans or sonar receivers; CICADA units can be programmed to home on a specific buoy when their charges run low. Built of cheap composites, a solar buoy has PD 3, DR 6, and 56 hit points; its unarmored panels have 2 hit points. 1,350 lbs.; 40 cf; $13,400.

Sonic Trodes

Dolphins and orcas are curiously reluctant to accept cybernetic implants such as neural interface jacks. Instead, they favor trodes, but of a specialized design suited to use in an aquatic environment and to their unique sensory abilities. Sonic trodes convert cetacean vocal commands into digital signals that are transmitted to remotes or computers by wire or radio, and then translate the response into sonar-sense impressions and cetacean speech. The use of trodes enables use of technological devices but gives no bonuses to skill (see p. 57). 1.0 lbs.; 0.06 cf; $1,800.

Weapons Harness

Dolphins and orcas serving in the military often carry weapons systems on undersea missions. A weapons harness provides the ability to carry such weapons on the cetacean's own body, with no need for a CICADA to operate them. Dolphin harnesses have one 37.5mm torpedo tube with 12 torpedoes; orca harnesses have two tubes and 50 torpedoes. Both versions are designed to be controlled by sonic trodes. The tubes have cyberslave mounts with full stabilization.

Dolphin Harness: 13.75 lbs.; $330.
Orca Harness: 115 lbs.; $1,550.
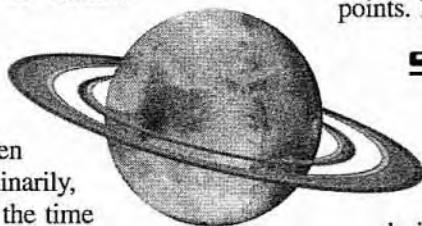
Melee Weapons

Diamond Knife

Advances in materials fabrication make it possible to manufacture useful objects formed from diamond. The diamond knife is a common tool and weapon. Treat it as a small or large knife of super-fine quality (×20 cost, +3 damage, and it will not break when used to parry). LC 4.

Stun Batons and Stun Gloves

A stun baton is a short, flexible melee weapon that discharges an electric current into its target on a successful Shortsword roll. The effect is nonlethal electric shock (p. 37). A standard battery provides power for 50 uses. 0.5 lbs. (includes weight of battery); $100.

A similar device, the stun glove, requires a roll to grapple the target (against DX, Judo, or Wrestling). LC 6. 0.4 lbs. (includes weight of battery); $200.

Firearms

The personal weapons of 2199 A.D. are mostly firearms powered by chemical explosives. The differences are technical refinements rather than new principles. The most important change is from cartridges to a binary propellant system, in which two liquids are mixed in the chamber of the weapon just before firing and electrically ignited. A standard battery weighing 0.2 lbs. provides power for hundreds or thousands of shots.

Some of these firearms are designed to be used with augmented strength or exceptional natural strength. GEO shock troopers often carry such high-powered weapons. Spies and criminals normally avoid such firearms, as they are rare and easily traced, and people strong enough to use them are easily identified.

Notes: Additional firearms can be designed using the rules in **GURPS Vehicles** (pp. VE100-113). The binary propellant system is treated as a liquid propellant (p. VE111), but with an electric power requirement equal to 1/100 of the power requirement for an electromag gun (p. VE109). Most of the energy comes from the chemical reaction, not the electric discharge. Autoloading and fully automatic mechanisms are electrically powered; the power requirement is about 1% of the power needed for the electric discharge system that ignites the propellant and is not accounted for separately.

Grenade Launcher

A grenade launcher fires 36mm rifle grenades powered by a binary propellant. It has a shoulder stock, but its barrel is quite short, usually no more than 12 inches. It can fire a variety of grenades (see p. 54-55). LC 0.

Handguns

Handguns are available in several traditional metric sizes. The standard handgun is an automatic, with ammunition stored in a plastic clip that is discarded after use. Concealable handguns are also available, made entirely of plastic to avoid metal detectors, and with entirely mechanical action to avoid sending electromagnetic signals; they fire caseless plastic ammunition rather than using liquid propellant.

Most handguns have a fast autoloading mechanism. However, for applications where versatility is important, revolvers are used, with the cylinder controlled by an interactive access chip that can select a specific round; loading the cylinder with different ammunition types permits selection of the best round for a given task. The GEO Peacemaker, designed for users with augmented strength or wearing assault harnesses, is an example. LC 3 (LC 2 for nonmetallic concealable designs).

Machine Guns

Light machine guns can be used by a single soldier, perhaps with the aid of a bipod or a weapon harness. They are normally used in fully automatic mode. The resulting high power consumption requires a heavy battery weighing 3.0 lbs. LC 0.

Accessories

There are various devices available to enhance the accuracy and utility of firearms.

Assault Harness

An assault harness is worn over the upper torso and provides support for a specific type of firearm, improving the distribution of its weight to give -2 to the minimum ST to use a weapon. It also absorbs recoil from firing, canceling out the first -2 to skill from recoil. LC 0. 3.75 lbs.; $650.

Laser Designator

A laser designator projects a dot in the direction the gun muzzle is pointing to help the user aim. This gives +2 to accuracy. The snap shot penalty is reduced to -1 at up to 50 yards and -2 at 50-100 yards; it remains -4 for longer ranges. LC 4. Negligible weight; $40.

Scope

A scope is an optical magnifier that fits onto a firearm, usually a rifle. An optical scope (common on native rifles) gives +1 accuracy for aimed shots, and cancels 1 point of low light penalty by its ability to gather light. LC 4. 4 lbs.; $150. An electronic scope gives +2 to accuracy for aimed shots. LC 4. 1 lb.; $1,000.

Targeting Interlink

A weapon with an electronic scope can be linked to a HUD (p. 43) or to a neural interface jack (p. 34). Either option gives -5 to the weapon's Snap Shot rating. In addition, the weapon can be pointed outside the user's visual field, over his shoulder or around a corner; it then serves as a periscope and can be fired at a target in its own visual field. A remotely operated weapon provides the same benefits, but with the standard telepresence modifiers (see p. 57). LC 2.

Rifles

Rifles are available in several varieties, suited to different functions.

Assault rifles: Designed for infantry combat, they have limited effective range, since enemy forces at greater distance can be targeted by artillery fire. They fire low-caliber ammunition, but can put out a high volume of fire; a standard ammunition cassette holds 100 rounds. They can be selected for fully automatic fire, three-round bursts, or single shots. LC 1.

Hunting rifles: Designed for single-shot fire, with autoloading from a clip, typically of 10 rounds. Their sizes range from light "varmint" rifles up to big game weapons. They also include various native-made TL5 designs based on older technologies, with a breechloading design and firing metal bullets propelled by black powder cartridges; an example of this design is given on p. 53. LC 4.

Sniper rifles: Generally similar to hunting rifles, but with slightly longer barrels. They also use a larger charge of propellant to produce a higher muzzle velocity, which gives them increased range and damage. The listed sniper rifle is of very fine quality, with superior accuracy. LC 2.

Shotguns

Shotguns fire shotshells, cartridges containing a number of projectiles of caliber less than the gun barrel. The shot spreads out after leaving the barrel, decreasing the effective range. Roll each die of damage separately for penetration of DR. LC 4.

Spear Guns

Native-made spear guns rely on elastic materials for energy storage; manufactured weapons use compressed gas. Both types fire short shafts with sharp, barbed heads. The shaft is fastened to the gun by a line up to 10 yards long. If the spear hits, the target must win a contest of ST to escape the line; on success by less than 3, the barbed head tears out of the wound, doing damage equal to the original hit. These weapons are typically used in water, but performance statistics are provided for both water and air. LC 4.

Stun Guns

Stun guns are not really firearms at all. They are beam weapons that fire an intense sonic pulse, causing disorientation, confusion, and temporary hearing loss. Stunners require a HT roll to avoid their effects; armor is only partially effective, giving +1 to effective HT per 5 points of DR. If a limb is hit, a failed HT roll incapacitates the limb for 20-HT minutes (minimum 1); on a head or body hit, the victim is "asleep" for the same amount of time. A hit to the head also results in hearing loss, unless the HT roll was a critical success; the victim gains the Hard of Hearing disadvantage, or the Deafness disadvantage if the HT roll was a critical failure. When the victim awakens from stun, a second HT roll is required to regain normal hearing. This follows a slightly modified version of recovery from crippling injury (p. B129): On a successful roll against HT, hearing returns to normal when the injured person regains all of his hit points. On a roll failed by 3 points or less, partial hearing loss persists for 1d months; complete hearing loss turns into partial hearing loss after 1d months, with full recovery after another 1d months. If regeneration is available, reduce each recovery time to 1 month. On a roll failed by more than 3 points, only regeneration can restore hearing. Stun guns can also shatter glass or other small, fragile objects.

Because they do not fire projectiles, stun guns are the weapon of choice for space stations and for aircraft or spacecraft in flight. They are also useful for crowd control and to capture fugitives. LC 6.

Note: Stun guns can be built using the rules in *GURPS Vehicles* (pp. VE123-127), but they should be defined as "bulky": ×2 weight and ×1/4 cost.

Submachine Guns

Submachine guns are effectively miniaturized assault rifles, capable of the same fire options, but smaller and lighter, with short barrels that decrease their effective range. LC 1.

Ammunition Types and Costs

Standard ammunition for modern firearms is made of industrial grade bioplastic with a tungsten carbide core for increased density. It costs $4 per pound. For example, a 7.62mm assault rifle holds a clip of 100 rounds that weigh 2.8 lbs.; this costs $9.60, or $0.10 per round. Ammunition is normally sold in premade cassettes, belts, or other packages.

There are five variant types of ammunition described below:

Concealable Rounds

Plastic rounds without a metal core have the advantage of not being detectable by standard electromagnetic sensors. Plastic ammunition is standard in the 11.25mm concealable automatic handgun. For other firearms, multiply damage and range by 0.5. For example, a 7.62mm assault rifle firing concealable rounds has 1/2D range 390 yards, Max range 2,100 yards, and Damage 3d+2. LC 2.

Explosive Rounds

Explosive rounds for hand-held firearms are designed to go off on impact. Base damage is 1d-1 for 11.25mm and 12.57mm rounds and 1d for 14.5mm rounds. If the round hits a person or solid object, check whether it penetrates, treating it as a suppression round for this purpose. If it does not penetrate, damage is doubled; if it does, damage is multiplied by 5. If the round does not penetrate, it also inflicts its basic damage in a 2-yard radius; damage outside this radius is negligible. Ammunition for hand held firearms is too small to produce useful fragments. Explosive rounds occupy the standard volume, weigh one-third less, and cost twice as much as regular ammunition. LC 2.

Suppression Rounds

Suppression rounds are made of a soft gel that spatters on impact; like concealable rounds, they are not detectable by electromagnetic sensors. Their basic damage is multiplied by 0.5, but they also have an armor divisor of (1/2); this means that target DR is multiplied by 2, and an unarmored target is treated as DR 1. Multiply their range by 0.2 and their cost by 2.

For example, a 7.62mm assault rifle firing suppression rounds has 1/2D range 160 yards, Max range 840 yards, and Damage 3d+2 (1/2); a clip costs $22.40. LC 5.

Flechette Rounds

Shotguns can fire bundles of plastic needles, which inflict impaling damage on their targets. Flechettes have limited penetration capability, with an armor divisor of (1/2); this means that target DR is multiplied by 2, and an unarmored target is treated as DR 1. In some circumstances, this is an advantage! Cost is twice that of normal shotgun rounds. LC 4.

Native Rounds

Native-made firearms fire metal rounds; they cannot use modern ammunition, nor can modern firearms fire native-made metal rounds. Metal ammunition costs $2 per pound. Effects on damage, range, etc. are already figured into the entry for "native hunting rifle."
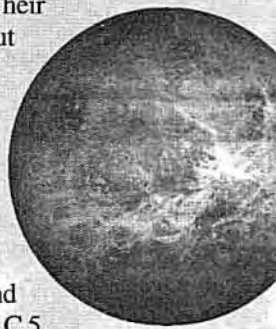
WEAPON TABLE

Guns and Grenade Launchers

Weapon	Malf	Damage	SS	Acc	1/2D	Max	Wt.	AWt	RoF	Shots	ST	Rcl	Cost	TL
BEAM WEAPONS (SONIC) (DX-4)														
Pistol Grip Stunner	Ver.	Spcl.	11	11	25	50	0.7	–	3	20	6	0	$275	9
Tripod Stunner	Ver.	Spcl.	11	11	60	120	4.1	–	3	200	8	0	$310	9
CROSSBOW (DX-4)														
Compressed Gas Powered, in air	Crit.	1d+1	12	4	200	250	6.0	1.0	1	5	10	0	$200	9
in water			14	2	100	125								
Elastic Powered, in air	Crit.	1d	12	4	160	200	6.0	1.0	1/5	1	8	0	$160	5
in water			14	2	80	100								
GUNS (GRENADE LAUNCHER) (DX-4)														
Grenade Launcher, Heavy	Ver.	*	14	5	170	1,700	13.3	1.1	3~	3	12	2	$2,000	9
Grenade Launcher, Light	Ver.	*	12	5	85	1,200	6.8	1.1	3~	3	9	1	$1,300	9

* Damage depends on the type of grenade being launched.

Weapon	Malf	Damage	SS	Acc	1/2D	Max	Wt.	AWt	RoF	Shots	ST	Rcl	Cost	TL
GUNS (LIGHT AUTO) (DX-4)														
Light Machine Gun, 7.62mm	Ver. (Crit.)	7d	12	10	780	4,200	10.8	5.6	15	200	12	-2	$2,600	9
with bipod			12	12			12.8				11	-2		
Light Machine Gun, 9.00mm	Ver. (Crit.)	11d-1 (2)	12	10	840	4,400	13.9	9.2	15	200	14	-2	$3,200	9
with bipod			12	12			16.7				13	-2		
Submachine Gun, 5.56mm	Ver. (Crit.)	3d+1	11	7	190	1,800	1.9	0.7	15	100	8	1	$1,000	9
Submachine Gun, 7.62mm	Ver. (Crit.)	4d+2	12	9	340	2,600	3.3	1.7	15	100	10	-2	$1,100	9
Submachine Gun, 9.00mm	Ver. (Crit.)	5d+1	12	9	380	2,800	4.6	2.7	15	100	10	2	$1,300	9
Submachine Gun, 11.25mm	Ver. (Crit.)	7d-1	12	9	420	2,800	7.0	5.3	15	100	11	-2	$1,600	9
Submachine Gun, 12.57mm	Ver. (Crit.)	7d+2	12	9	440	3,000	9.0	7.7	15	100	14	-3	$1,800	9
GUNS (LIGHT AUTO) or GUNS (RIFLE) (DX-4)														
Assault Rifle, 5.56mm	Ver. (Crit.)	5d	12	9	440	3,000	6.5	1.1	15	100	9	-1	$1,500	9
Assault Rifle, 7.62mm	Ver. (Crit.)	7d	12	11	780	4,200	12.0	2.8	15	100	12	-2	$2,200	9
Assault Rifle, 9mm	Ver. (Crit.)	8d	14	11	840	4,400	16.6	4.6	15	100	13	2	$3,100	9
GUNS (PISTOL) (DX-4)														
Automatic, 5.56mm	Ver. (Crit.)	2d+2	9	4	160	1,700	1.3	0.5	3~	35	8	-1	$900	9
Automatic, 7.62mm	Ver. (Crit.)	3d+2	9	5	280	2,200	2.1	0.8	3~	25	9	1	$1,000	9
Automatic, 9mm	Ver. (Crit.)	4d	10	6	300	2,400	2.8	1.4	3~	25	11	2	$1,100	9
Automatic, 11.25mm	Ver. (Crit.)	5d	10	6	340	2,600	4.2	2.7	3~	25	12	-2	$1,400	9
Automatic, 12.57mm	Ver. (Crit.)	6d-1	10	5	360	2,600	5.0	1.9	3~	25	13	-3	$1,500	9
Automatic, 14.5mm	Ver. (Crit.)	6d+2	10	5	380	3,800	6.5	1.7	3~	15	14	-3	$1,700	9
Concealable, 11.25mm	Ver.	1d+1	9	3	85	870	0.5	0.3	3~	12	9	-2	$550	9
GEO Peacemaker, 12.57mm	Ver. (Crit.)	6d	10	6	360	2,600	5.75	0.05	3~	8	13	-3	$1,500	9
GUNS (RIFLE) (DX-4)														
Hunting Rifle, 5.56mm	Ver. (Crit.)	5d	12	8	440	3,000	4.4	0.1	3~	10	10	-2	$1,300	9
Hunting Rifle, 7.62mm	Ver. (Crit.)	7d	12	10	780	4,200	8.0	0.3	3~	10	11	-2	$1,700	9
Hunting Rifle, 11.25mm	Ver. (Crit.)	10d	14	10	940	4,600	17.3	0.9	3~	10	15	-3	$3,200	9
with bipod			14	10			21.5				12	-2		9
Native Hunting Rifle, 10mm	16	7d	17	10	670	3,800	20.2	0.125	1/5	1	11	1	$1,300	5
Sniper Rifle, 7.62mm	Ver. (Crit.)	8d	12	13	930	4,600	10.5	1.0	3~	30	11	-2	$14,000	9
GUNS (SHOTGUN) (DX-4)														
Shotgun, 15mm	Ver. (Crit.)	3d	11	4	24	150	1.7	0.9	3~	30	12	4	$1,100	9
Shotgun, 19mm	Ver. (Crit.)	4d	11	4	27	160	2.6	1.9	3~	30	14	5	$1,300	9

Heavy Weapons

Weapon	Malf	Damage	SS	Acc	1/2D	Max	Wt.	WPS	RoF	Ldrs.	Cost	TL
GUNNER (CANNON) (DX-5)												
Assault Cannon, 20mm	Ver. (Crit.)	12d	17	12	550	3,400	38.0	0.25	50	0	$8,500	9
Assault Cannon, 25mm	Ver. (Crit.)	15d	17	12	620	3,600	59.0	0.50	40	0	$13,300	9
Assault Cannon, 30mm	Ver. (Crit.)	18d	17	12	680	3,800	128.0	0.86	30	0	$25,000	9
Assault Cannon, 37mm	Ver. (Crit.)	22d	17	13	750	4,000	194.0	1.60	25	0	$30,000	9
Autocannon, 20mm	Ver. (Crit.)	18d	20	14	1,300	5,600	67.5	0.25	20	0	$23,000	9
Autocannon, 37mm	Ver. (Crit.)	8d × 4	20	15	1,700	6,600	350	1.6	10	0	$62,000	9
GUNNER (MACHINE GUN) (DX-5)												
Heavy Machine Gun, 7.62mm	Ver. (Crit.)	8d	14	13	930	4,600	13.0	0.033	50	0	$2,900	9
Heavy Machine Gun, 9.00mm	Ver. (Crit.)	9d+2 + 2	17	14	1,000	4,800	18.0	0.055	40	0	$4,000	9
Heavy Machine Gun, 12.57mm	Ver. (Crit.)	13d + 1	20	14	1,200	5,400	36.0	0.15	30	0	$8,100	9

Launchers

Weapon	SS	Wt.	RoF	Ldrs.	Cost	TL
GUNNER (GUIDED MISSILE) (DX-5)						
Infantry Missile Launcher	20	32	1/6	0	$2,400	9
Mounted Missile Launcher	20	78	1/2	0	$5,900	9
GUNNER (TORPEDO) (DX-5)						
Portable Torpedo Tube, 37.5mm	10	3.4	1	0	$420	9
Mounted Torpedo Tube, 37.5mm	17	3.4	1	0	$420	9
Torpedo Tube, 230mm	25	990	1/4	0	$30,000	9

Missiles and Torpedoes

Weapon	Malf	Damage	Spd	End	Skill	Min	1/2D	Max	WPS	CPS	TL
Anti-Vehicle Missile, 90mm	Crit.	6d×34 [6d]	1,000	15	16	–	–	15,000	37.5	$3,800	9
Torpedo, 37.5mm	Crit.	6d×7	10	23	–	–	–	230	1.7	$21	9
Torpedo, 230mm	Crit.	6d×1,500	60	150	15	–	–	9,000	400	$20,000	9

Note: Every weapon in these tables does crushing damage, except for spear guns (impaling), stun guns (special), and missiles and torpedoes (explosive).

Grenades

Grenades come in two sizes: hand-thrown, typically weighing 0.7 lbs., and launched (see *Grenade Launcher,* p. 50), typically weighing 0.375 lbs. Hand-thrown grenades require the Throwing skill. Grenades come in two broad classes: destructive and suppressive.

Destructive Grenades

Armor-piercing follow-through (APFT) grenades require a high impact speed and thus are available only for launchers. They have a two-stage explosion, in which a shaped breaching charge penetrates the armor, and then a destructive charge penetrates the breach. Damage is 9d (2), where the (2) is an armor divisor. All grenades in this category are LC 0.

The simplest destructive grenade is the *concussion grenade,* which produces an explosive shockwave (see p. B121). Damage is 6d×5 for a hand grenade, 17d for a launcher grenade.

The standard destructive grenade is the *fragmentation grenade,* which has a casing designed to disintegrate into lethal fragments (see pp. B121-122). Damage is 6d×4 [4d] for a hand grenade, 13d [4d] for a launcher grenade; the [4d]

denotes damage from fragments. Note that concussion damage is reduced by energy spent in propelling the fragments.

Incendiary grenades release an intensely hot burning material with a radius of 7 yards for hand grenades or 5 yards for launcher grenades.

Suppressive Grenades

All suppressive grenades take effect in the same radius as incendiary grenades: 7 yards for hand grenades, 5 yards for launcher grenades. All grenades in this category are LC 5.

Adhesive grenades release multiple strands of a strong, sticky material. Anyone entangled may make one attempt per minute to break the strands with a Contest of Strength; the strands are ST 20. A fully clothed victim may make one attempt per 10 minutes to squirm out of his clothes and escape with a roll of Escape-3. Any failed attempt to break free causes the strands to constrict, inflicting 1 point of damage. The strands lose their constricting ability after 24 hours and then lose 1 ST per 2 hours; they can also be removed with an aerosol spray (one can costs $100, weighs 2 lbs., and treats up to 25 victims, one per turn).

Flash-bangs are designed to create a bright flash and a loud noise. Anyone within range who is not wearing heavily

darkened lenses and ear protection may be incapacitated. The target must make a HT-5 roll to avoid being physically stunned. If stunned, he must attempt a HT-5 roll each turn to recover. If the target has eye and ear protection, the HT rolls are made at no penalty. On a critical failure, the target remains stunned for five turns before he can attempt to recover again. Targets who are suddenly blinded and deafened may be required to make a Fright Check at +2.

Nausea grenades release a contact agent that causes severe nausea. Anyone who is not wearing a gas mask or airtight armor must make a HT-4 roll every second; if this fails, he becomes violently ill for as long as he remains in the cloud, plus (20-HT) minutes. Effects are equivalent to being stunned. Even if all his rolls have succeeded, he is at -4 on DX, IQ, and skill rolls.

Sleep grenades release a gas that causes unconsciousness if inhaled. For each turn of exposure, the victim must roll against HT-4. If he makes the roll, he takes 1 point of Fatigue; if his Fatigue goes to 0 he falls asleep. If he misses the roll he falls asleep automatically. Those who leave the cloud regain ST normally; those who have fallen asleep remain asleep until (30-HT) minutes after they leave the cloud. At that point they are allowed one HT roll per minute to awaken. A successful First Aid roll can also awaken them.

Smoke grenades release a thick cloud of colored smoke that blocks vision. For twice the cost the smoke is also prismatic, blocking radar and laser beams. Anyone breathing either form must make a HT roll each turn or suffer 1 point of damage.

Heavy Weapons

Squad and vehicular weapons are rare and largely restricted to military and SWAT forces (all heavy weapons are LC 0). This list provides a sample suitable for adventurers with official connections or good black market ties.

Weapons in this weight class can have a fixed or towable mount as independent units, or a fixed or cyberslave mount in a vehicle. Vehicular fixed mounts are normally used only with launchers for guided missiles or torpedoes. Either a vehicular cyberslave mount or a mount for an independent unit weighs as much as the weapon itself; a fixed vehicular mount adds no extra weight, as the weapon is attached directly to the skeleton of the vehicle.

Assault Cannon

A standard assault cannon is an electric Gatling gun with three barrels in alternate use.

Autocannon

An autocannon has a single long barrel. Various models are commonly used in armored vehicles or for antiaircraft fire.

Heavy Machine Gun

Heavy machine guns have longer barrels than light machine guns and require a fixed or vehicular platform. They are otherwise similar.

Missile/Missile Launcher

A missile is designed for operation in the air at supersonic speeds. The standard model has a built-in optical homing system with skill 16. Missile launchers come in two sizes. The small infantry model is a single-shot muzzle-loader; the mounted model has a fast autoload mechanism. Missiles cause explosive damage, including concussion and fragmentation.

Torpedo/Torpedo Launcher

A torpedo is a self-propelled missile designed for underwater operation. Two sizes are in common use. The larger size has an active sonar homing system with skill 15; the smaller size is unguided. The larger size is fired from a mounted launcher with a fast autoloading mechanism; the smaller size is fired either from a mounted launcher with a slow autoloading mechanism or from a portable launcher with a pistol grip. The portable launcher has a magazine with capacity 4 torpedoes. Torpedoes cause explosive damage (concussion only).

ROBOTS AND REMOTE DRONES

A "robot" is a machine that directs its own movements and actions without human involvement. A "remote" is a machine that is controlled by a human being somewhere else. The same machine can be both at different times.

Robots at the end of the 22nd century are not the mechanical men of classic science fiction. They're much like other machines, except that they have built-in computers programmed for self-operation. They're widely used both for routine tasks that don't call for human flexibility and for non-routine tasks that are dangerous for human beings to perform. Common types of robots on Poseidon include:

Construction Robot

The commonest size of construction robot has a standard basic chassis with space and power for any of a number of tool modules. It is installed with the appropriate dedicated Complexity 4 computer brain, giving it IQ 7 and DX 10. The robot has a low-resolution black and white monocular camera, a microphone and loudspeaker with bullhorn attachment (useful in shouting warnings), and an interface jack. A tracked drivetrain enables it to operate on rough ground; 135 lbs. of hydrogen fuel supply power for 9 hours of operation. Every model has a hitch that can tow up to 120,000 lbs. of external load. Top speed varies with the installed module; note that on-road operation is 10 mph faster (construction robots normally operate off-road). 10,000 lbs. plus module weight; 700 cf; $200,000 plus module cost.

A similar chassis can be used for an agricultural robot; see p. VXi20 for equipment construction rules. The size of agricultural equipment is limited by available volume of 400 cf and available power of 20 kW.

Bulldozer

A bulldozer blade enables a robot to clear a path of its own width. In ordinary soil it can plow 2,000 cubic yards per hour; in loose sand the rate is doubled. Top speed is 40 mph (Move 20). 800 lbs.; $1,600.

Crane

A 120' crane can lift up to 20 tons with a hook or bucket. Top speed is 30 mph. 20,000 lbs.; $80,000.

Drill

A power drill can bore a tunnel through hard rock at a rate of 100 cf/hour, for a forward speed of 1.5 yards per hour. Multiply its speed ×2 in soft rock, ×3 in clay, or ×4 in soil or sand. Top speed when not drilling is 40 mph. 5,000 lbs.; $4,000.

Forklift

A forklift can handle a load of up to 20,000 lbs. Top speed is 30 mph unloaded, 20 mph loaded. 20,000 lbs.; $40,000.

Shovel

A power shovel can dig in ordinary soil at a rate of 120 cubic yards per hour, or in sand at 240 cubic yards per hour. Top speed is 20 mph. 48,000 lbs.; $240,000.

Winch

A winch can haul loads with effective ST 4,000 on a 4,000-yard cable. Note that if the load's weight exceeds the combined weight of winch and robot, the winch will instead pull the robot closer to the load! Top speed is 30 mph. 10,000 lbs.; $80,000.

Delivery Robot

A delivery robot is essentially a small flying vehicle able to carry a parcel. A low-powered ducted fan with vector thrust provides power for a few minutes of flight at high speeds. A Complexity 2 computer brain perceives the flight environment by low-powered radar and communicates by short-range radio. The standard model can fly for up to 10 minutes at an average of 100 mph, giving it a round-trip radius of 8 miles or a one-way radius of 16 miles if it can recharge at the destination. It carries up to 5 lbs. 30 lbs., $1,800.

Recon Crawler

The recon crawler was developed for military use, but has proven useful in a number of civilian applications as well, from detective work to building inspection. A half-dome body carries a monocular video camera, a microphone, and a radio transceiver, along with a small card with the Compact, Dedicated, Hardened, Neural-net, and Robot Brain options (Complexity 2, DX 9, IQ 6) and a mini battery (30 kWs). A six-legged drivetrain with improved suspension can attain speeds up to 40 mph (Move 20) with endurance of 50 minutes. For concealment, the crawler has a liquid crystal skin capable of assuming varied camouflage patterns good for -2 to Vision rolls, in addition to the -4 from its small size. The system is capable of storing up sensory impressions and transmitting them in a compressed burst signal at regular intervals,

Alternative Ammunition Types

In addition to standard solid ammunition, two other types are commonly available for military use, usually in autocannon:

Explosive Rounds

Explosive rounds are designed for fragmentation as well as concussion effects. Damage is 2d+1 [2d] for 20mm rounds and 14d [4d] for 37mm rounds.

Shaped Charge Rounds

Also known as high-explosive anti-tank (HEAT) rounds, shaped charges operate by using the energy of an explosive charge to generate a high-velocity stream of molten metal than penetrates armor very effectively. Damage is 6d (10) for 20mm rounds and 11d (10) for 37mm rounds. The (10) indicates that armor has only 1/10 its normal value. However, laminate armor, which is standard on military vehicles, has superior resistance to shaped charge rounds; the divisor is 5 rather than 10 in this case.

when externally triggered, or when a prespecified trigger event takes place near it. It has 1 hit point, and laminate armor gives it PD 2 and DR 2. A crawler can be programmed to discharge its battery through its skin if handled by unauthorized personnel; this inflicts a lethal electric shock (p. 37) on the handler. 2.5 lbs.; 0.032 cf; $3,200.

Remote Submersible

Remote submersibles are used for scientific research, prospecting, and other tasks. A basic model is controlled from the surface via a cable, which may also carry power to extend the life of its batteries; if it is disconnected, a standard program brings it to the surface again. Physically this model is a sphere 15 inches in diameter, a design that maximizes its crush depth. Its flotation capacity is 59 lbs. Two heavy batteries provide power for 80 minutes of operation. A miniature MHD tunnel enables it to attain up to 6 mph (Move 3). A sonar apparatus with a range of a quarter mile enables it to navigate, controlled by a Complexity 4 robot brain; space is provided for scientific apparatus, up to 5 lbs. in weight and 0.1 cf in volume. Advanced laminate armor provides PD 4 and DR 20 and gives it a crush depth of 2,880 yards. 54 lbs.; $66,500.

The basic data cable weighs 10 lbs. and costs $100 per 1,000 yards. A cable that also carries electric power has 5 times the weight and twice the cost.

One common use for remote submersibles is prospecting, aided by biochemical sensors that analyze the seawater for trace xenosilicates.

Teleoperation

Teleoperation is the remote control of a machine, generally via a radio, infrared, or laser communicator. The machine normally requires a password, limiting access to authorized teleoperators. Teleoperation requires a communications link by cable, radio, sonar, or laser. If this is jammed or interrupted, the teleoperator loses control.

To give useful commands, the teleoperator must be able to perceive what the machine is doing and what is happening in its environment. If the machine has sensors, the teleoperator can use them. If not, the teleoperator can rely on external sensors or even on his own senses, if he can see (or sonar) the machine he is operating.

There is a "telepresence penalty" on anything done through teleoperation, depending on what teleoperation system is in use:

Manual interface	-4
Interactive access chip	-4
HUD interface	-3
Virtual reality interface	-2
Trodes	-2
Interface jack	-1

Teleoperation also assumes the teleoperator is focusing entirely on the remote and not doing anything else. Otherwise, there's a -4 penalty on anything he's doing either with the remote or with his real body.

A teleoperator can control multiple remotes. Apply a cumulative -2 per remote after the first to all rolls to operate any of the remotes.

The speed of light is an issue for long-range teleoperation. Every 186,000 miles (1 light-second) between the operator and the remote creates a 1-second delay for him to receive information from the remote, and another 1-second delay for him to signal it to respond. It takes 1 second to act, 2 seconds to *react*. Even split-second light-lag can be a problem; an action such as dodging or shooting at a moving target is at -1 per 10,000 miles.

Special rules apply to teleoperation of a remote with its own autonomous digital control system. The drone is effectively unconscious while being controlled. For ST, DX, or HT rolls, use the drone's values, even if the drone has lower attributes than its operator; e.g., a teleoperator with DX 14 controlling a DX 12 drone has a -2 penalty on DX-based skills. The controller uses his own IQ, Will, and skills. The GM determines which advantages and disadvantages are applicable. In general, the teleoperator works with the drone's physical advantages or disadvantages, but his own mental ones.

Under the Hood: Sonic Trodes

A dolphin or orca using sonic trodes to operate a machine doesn't get the usual +2 to skill for using trodes. This seems to be a penalty, but it works out to be a bonus. Any mechanical or manipulatory task a cetacean performs is always teleoperation, since the cetacean has no hands. Teleoperation with standard trodes is at -2 to skill, but teleoperation with sonic trodes has no penalty, because sonic trodes are optimized for that one function. So, for example, a cetacean using sonic trodes to control a remote submersible can apply his full IQ or skill.

As a side effect, cetaceans are in demand as teleoperators, being able to operate remote equipment with no skill penalty, other than for the speed of light. The -1/200' distance penalty (see *CICADA*, p. 49) only applies when using sonar in water. When cetaceans surface and use their sonic trodes to send radio signals in atmosphere or in space, or if they link to cable or fiber *anywhere*, they are excellent teleoperators because of their experience in a more difficult medium. A cetacean used to teleoperating using sonar at 600 feet must learn the relevant skills three levels higher than a person who only uses fiber-connected interfaces; for tasks of equal difficulty, the cetacean will be better and in more demand.

VEHICLES

Poseidon's inhabitants rely on a variety of vehicles to link the remote settlements on their scattered islands. Long-range travel depends on air, sea, and submersible craft. This chapter presents a sampling of vehicles in common use; others may be designed using *GURPS Vehicles*.

Many of the general-purpose vehicles described here can be converted from passenger to light freight by taking out the seats. For such vehicles, the stats given are for the passenger version. See the *Design Notes* for the light freight version. Light freight averages 20 lbs./cf, but the air and hover vehicles detailed on pp. 61-65 are limited to 15 lbs./cf.
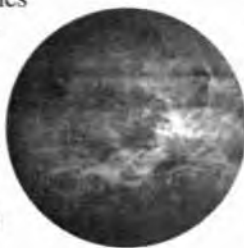
Vehicular Accessories

Here are some examples of useful accessories that can be added to vehicles of various types. Note that the prices for the communicator and all suites described below are 1/10 that in *GURPS Vehicles*, reflecting the widespread availability of electronics on Poseidon.

Communicator

A radio transceiver system with a range of 10,000 miles under normal conditions. 5 lbs.; 0.1 cf; $30. Power consumption is negligible. For twice the cost, the system can send and receive scrambled messages.

Computer-Assisted Targeting (CAT) System

An extremely small, dedicated computer runs a ballistic calculation program that gives +2 to Gunner skill. Complexity: 1. Weight, volume, and power consumption are negligible; $1,000.

Electronic Countermeasure (ECM) Suite

A deceptive jammer designed to confuse radar (see *Radar Suite*, below). ECM suites are rated from 1 to 5. Their characteristics are as follows:

Rating	Weight (lbs.)	Volume (cf)	Cost	Power (kW)
1	20	0.4	$2,000	2
2	40	0.8	$4,000	4
3	100	2.0	$10,000	10
4	200	4.0	$20,000	20
5	400	8.0	$40,000	40

Ejection System

An ejection system uses a rocket to fire a seated occupant out of a vehicle, and then brings him safely to the ground (from an aircraft) or to the surface (from a submersible). 100 lbs.; 5 cf; $5,500.

Environmental Control

An environmental control system provides light, ventilation, and comfortable levels of temperature and humidity for a vehicle. Occupants can operate without fatigue (see p. B130) at up to 120°F or down to -30°F; treat higher or lower temperatures as 40°F closer to the comfort zone. 5 lbs./man; 0.1 cf/man; $50/man; 0.25 kW/man.

Life Support

In addition to performing the functions of an environmental control system, a life support system supplies stored oxygen and drinkable water and removes carbon dioxide. The endurance of a life support system is measured in man-days, rounded to the nearest 0.25 man-day; the minimum size is 0.25 man-days per person. 100 lbs./man-day; 2 cf/man-day; $500/man-day; 0.5 kW/man (not per man-day).

Onboard Computer

A small, dedicated computer that can navigate, operate a vehicle, and assist in damage control. Navigation requires input from a radar, sonar, or other high-resolution sensor and a map database and enables the vehicle to select a course to a specified location. Vehicle operation lets the vehicle steer itself without human intervention, at effective skill 12, but only for routine operations; it will steer around obstacles but not perform dangerous maneuvers or Dodge. Damage control monitors the functioning of the vehicle and gives +2 to the skill that is used to repair it. Any vehicle with an onboard computer is considered to have computerized controls. Complexity: 2. Weight, volume, and power are negligible. $5,000 for ground vehicles and surface watercraft; $10,000 for aircraft, spacecraft, and submersibles.

Radar Suite

A high-frequency transmitter and receiver that can be used to determine the range, position, velocity, and other characteristics of surface, air, and space vehicles. Radar suites are rated from 1 to 5. Their characteristics are as follows:

Rating	Range	Weight (lbs.)	Volume (cf)	Cost	Power (kW)
1	45 miles	45	0.9	$2,250	11.25
2	70 miles	70	1.4	$3,500	17.5
3	100 miles	100	2.0	$5,000	25.0
4	150 miles	150	3.0	$7,500	37.5
5	200 miles	200	4.0	$10,000	40.0

Sonar Suite

Similar to a radar suite, but uses ultrasonic sound waves to detect underwater vehicles and terrain. Sonar suites are rated from 1 to 5. Their characteristics are as follows:

Rating	Range	Weight (lbs.)	Volume (cf)	Cost	Power (kW)
1	7 miles	140	2.8	$1,400	17.5
2	10 miles	200	4.0	$2,000	25.0
3	15 miles	300	6.0	$3,000	37.5
4	20 miles	400	8.0	$4,000	50.0
5	30 miles	600	12.0	$6,000	75.0

Targeting Computer

A computer somewhat larger and more sophisticated than the one in a computer assisted targeting system, able to operate a weapon autonomously – firing at a designated target with a Gunner skill of 12 – or to give a human gunner +2 to hit. A targeting computer is needed to use guided missiles or torpedoes. Complexity: 4. Weight, volume, and power are negligible; $45,000.

Turret

A turret is a weapon housing compartment mounted on a vehicle. It provides space for the weapon, a quantity of ammunition, a seat for the operator, and standing room for loaders, if they are needed. In addition, it provides cybernetic support for more effective weapon use: a targeting computer, a head-up display, a cyberslave mount, and stabilization gear (partial in ground, water, or hover vehicles; full in underwater, air, and space vehicles) are standard. Weight and volume are 1.05× weapon weight and volume for partial stabilization, or 1.10× weapon weight and volume for full stabilization. Cost is $55,000, plus $55 per pound of weapon weight for partial stabilization, or plus $60 per pound of weapon weight for full stabilization. In addition, the turret is capable of either partial or full rotation (180° or 360° respectively); add 10% or 20% of its volume to the body volume of the vehicle to hold the rotation gear.

VR Cockpit

A vehicular control station that gives the operator a simulated view of the surroundings through old-fashioned virtual reality gear, trodes, or an interface jack. The control station need not be placed at the vehicle's surface or have actual windows. 50 lbs.; 1 cf; $100,000.

Vehicle Key

The following descriptions list components in and easy-to-use format:

Abbreviations: Those in use include Hydro, Sub, Sup, Tur, Whl, Wng for Hydrofoil, Substructure, Superstructure, Turret, Wheel, and Wing, followed by a number if there are multiple subassemblies of the same type. (Arm, Body, Mast, and Skirt are spelled out.)

Body and Subassemblies: The number following the body and each subassembly gives the targeting modifier to hit it.

Powertrain: Describes the size and type of all propulsion and lift systems, power plants, and energy banks.

Fuel: For fuel, gives the amount and type, how long the vehicle can operate with the normal amount of stored fuel, running at maximum power (and the Fire number in parentheses).

Occupancy: Each number is followed by an abbreviation designating crew and passenger spaces. CCS, NCS, or RCS for cramped, normal, or roomy crew stations; CS, NS, and RS for cramped, normal, and roomy passenger seats; CSR, NSR, or RSR for passenger standing room. An X indicates an exposed position. C indicates crew members without a crew station. Cycle crew stations are listed as "cycle."

Cargo: Gives capacity in cubic feet. Unless otherwise specified, cargo space holds 20 lbs. per cf. Note that fully-loaded vehicles do not perform to their highest specifications.

Armor: Vehicles without this notation have no armor. F indicates frontal armor, RL right and left, B for back, T for top, and U for underbody. If the entire body or subassembly has the same armor, only one value is listed. Unless otherwise noted, all armor is metal. Special circumstances are detailed in the *Design Notes.*

Weaponry: Vehicles without this notation have no integral weapons. For those that do, the location notation also gives the facing of the weapon, per *Armor.* Ammunition listings include all shots stored on the vehicle.

Equipment: Grouped by location, these are the accessories that have significant effects in the game; others are described in the *Design Notes.*

Statistics: Size is vehicle dimensions in feet (height × width × length in most cases). *Payload* is the sum of the usual payload (including fuel, crew, cargo, and ammunition). *Lwt.* is the full loaded weight. *Volume* is in cubic feet. *Price* is in cs (represented as $). The performance ratings list overall HT and location hit points; top speed in mph, acceleration and deceleration in mph/second, maneuver rating (MR) in G, and SR, a margin of safety for failed control rolls. To determine turning radius (p. B139), square the vehicle's current speed and divide by (40 × MR). The letters g, w, u, a, and s indicate ground, water, underwater, air, and space. Other statistics appropriate to a given type of vehicle are listed at the end.

Design Notes: A compilation of data that rarely come up in play but are useful for reverse engineering or modifying design.

Ground Vehicles

Motorcycle

With far less land surface than Earth, Poseidon has few land vehicles. Motorcycles are fairly common in the larger settlements. They can function off-road, but their main use outside the cities is recreation.

Subassemblies: Body -1, 2 Wheels -2.
Powertrain: 20-kW fuel cell w/ 20-kW all-wheel drivetrain.
Fuel: 3 lbs. hydrogen in fuel module, 2.0 hours (fire 6).
Occupancy: 1 XCCS, 1 XCS (cycle)

Armor	F	RL	B	T	U
Body:	3/10	3/10	3/10	3/10	3/10

Statistics

Size: 3'×1'×6'	*Payload:* 409 lbs.	*Lwt.:* 639 lbs.
Volume: 2.76 cf	*Maint.:* 266 hrs.	*Price:* $5,600

HT: 12. HPs: 33 Body, 12 each Wheel.

gSpeed: 150 *gAccel:* 5 *gDecel:* 10 *gMR:* 1.75 *gSR:* 3
Ground Pressure High. Off-Road Speed 37.5.

Design Notes

Body is heavy, standard, with fair streamlining. Area is 12 sf. Armor is standard, metal. An improved suspension provides better MR and SR, and off-road tires give better off-road speed.

Water Vehicles

Hydrofoil

Hydrofoils can reach very high speeds, with fin-like structures lifting their hulls out of the water to reduce drag. They provide transport over short to medium ranges for passengers or light cargo; their speed also makes them useful for military purposes.

Subassemblies: Body +3, Hydrofoil +2.
Powertrain: 160-kW fuel cell w/ 150-kW MHD tunnel.
Fuel: 45 lbs. hydrogen in fuel module, 3.75 hours (fire 6).
Occupancy: 1 XRCS, 4 XNS

Armor	F	RL	B	T	U
All:	3/6	3/6	3/6	3/6	3/6

Equipment

Body: Communicator; onboard computer; radar suite [1].

Statistics

Size: 4'×6'×30'	*Payload:* 1,135 lbs.	*Lwt.:* 2,490 lbs.
Volume: 162 cf	*Maint.:* 103 hrs.	*Price:* $37,100

HT: 12. HPs: Body 112, Hydrofoil 37.

wSpeed: 100 *wAccel:* 25 *wDecel:* 8 *wMR:* 0.75 *wSR:* 5
Flotation 6,500 lbs. Draft 1.1'.

Design Notes

Body is light, standard, with fair streamlining and average hydrodynamic lines. Area is 200 sf. Armor is standard, composite. The freight version carries 120 cf of open cargo for loaded weight 4,090 lbs., HT 10, wSpeed 90, wAccel 15, draft 1.3'.

Hypersail

A hypersail is an advanced sailing craft with rigid airfoils taking the place of conventional sails. A single crew member can handle such a craft regardless of sail area or number of masts. Sophisticated aerodynamic design produces more thrust than conventional sails with the same area.

Subassemblies: Body +3, two Wingsails +5.
Powertrain: Hypersails, 625 sf, 3,375 lbs. thrust.
Occupancy: 1 C, 12 XCS

Armor	F	RL	B	T	U
Body:	2/2	2/2	2/2	2/2	2/2
Wingsails:	1/1	1/1	1/1	1/1	1/1

Equipment

Body: Communicator; onboard computer.

Statistics

Size: 3'×6'×24'	*Payload:* 2,600 lbs.	*Lwt.:* 5,200 lbs.
Volume: 250 cf	*Maint.:* 540 hrs.	*Price:* $52,600

HT: 12. HP: 188 Body, 625 each Wingsail.

wSpeed: 22 *wAccel:* 10 *wDecel:* 15 *wMR:* 0.75 *wSR:* 5
Flotation 14,136 lbs. Draft 1.3'.

Design Notes

Body is light, very expensive, with mediocre hydrodynamic lines. Area is 250 sf. Armor is expensive, composite. Loaded with freight up to the gunwales, a hypersail weighs 6,400 lbs. and has HT 11, wSpeed 21, wAccel 9, and draft 1.4'. A maximally loaded hypersail weighs 10,000 lbs. and has HT 9, wSpeed 19, wAccel 6, and draft 1.6'.

Native Catamaran

Poseidon's native communities often use catamarans for transportation. The construction is based mostly on local materials, but the design is fairly sophisticated, drawing both on ancient Polynesian designs and on sailing ships of the 19th century.

Subassemblies: Body +2, Mast -2.
Powertrain: Fore-and-aft rigged sail, 115 sf, 230 lbs. thrust.
Occupancy: 2 C, 6 XCS

Armor	F	RL	B	T	U
Body:	1/1	1/1	1/1	1/1	1/1

Statistics

Size: 3'×9'×27'	*Payload:* 1,600 lbs.	*Lwt.:* 2,630 lbs.
Volume: 87 cf	*Maint.:* 540 hrs.	*Price:* $1,380

HT: 10. HP: 47 Body, 8 Mast.

wSpeed: 11 *wAccel:* 2 *wDecel:* 5 *wMR:* 0.25 *wSR:* 5
Flotation 4,902 lbs. Draft 1.0'.

Design Notes

Body is extra-light, expensive, with mediocre hydrodynamic lines and a catamaran hull. Area is 125 sf. Armor is expensive, wood. The freight version carries a payload of 2,800 lbs. for a loaded weight of 3,710 lbs., wSpeed 10, and draft 1.1'. The craft is built at TL5.

Power Ski

The power ski is an almost purely recreational vehicle, popular with water sports enthusiasts, especially in Haven Harbor.

Subassemblies: Body +1.
Powertrain: 60-kW fuel cell w/ 60-kW MHD tunnel.
Fuel: 5 lbs. hydrogen in fuel module, 1.1 hours (fire 6).
Occupancy: 1 XCCS, 1 XCSR

Armor	F	RL	B	T	U
All:	2/2	2/2	2/2	2/2	2/2

Statistics

Size: 3'×2'×5'	*Payload:* 415 lbs.	*Lwt.:* 718 lbs.
Volume: 27 cf	*Maint.:* 196 hrs.	*Price:* $10,400.

HT: 11. HP: 22 Body.

wSpeed: 50 *wAccel:* 35 *wDecel:* 15 *wMR:* 0.75 *wSR:* 4
Flotation 1,539 lbs. Draft 0.7'.

Design Notes

Body is extra-light, standard, with fair streamlining and mediocre hydrodynamic lines. Area is 60 sf. Armor is standard, composite.

Underwater Vehicles

Submersibles are propelled by MHD tunnels, which use electromagnetic energy to eject high-speed jets of water. Power is supplied by fuel cells. The need to carry oxygen as well as hydrogen limits the submersible's range.

Note: These submersibles are designed using the special additional rules in *GURPS Atlantis* (pp. AT72-73).

MHD Sled

MHD sleds are designed to be ridden through the ocean depths by users who do not need a vehicle with life support. They are not so much driven as worn.

Subassemblies: Body +1.
Powertrain: 1-kW MHD tunnel with 9,000-kWs batteries, 2.5 hours. Power for the MHD sled comes entirely from its batteries rather than from a fuel cell.
Occupancy: 1 XCS

Armor	F	RL	B	T	U
Body:	2/4	2/2	0/0	0/0	2/2

Statistics

Size: 8' diameter *Payload:* 200 lbs. *Lwt.:* 345 lbs.
Volume: 16 cf *Maint.:* 600 hrs. *Price:* $1,100

HT: 12. HP: 15 Body.

wSpeed: 10 *wAccel:* 1 *wDecel:* 5 *wMR:* 0.5 *wSR:* 3
uSpeed: 5 *uAccel:* 0.5 *uDecel:* 17 *wMR:* 0.5 *wSR:* 6
Flotation 1,000 lbs. Surface draft 0.9'. Submerged draft 3.3'.

Design Notes

Body is extra-light and cheap. Area is 40 sf. Armor is cheap composite. The body is submersible; however, the sled does not have a crush depth, since it has no air-filled interior space – the pilot rides in a partially shielded space on top of the sled. The pilot's ability to withstand the pressure of the depths determines how deep the sled can go.

Research Submersible

The research submersible can function at a depth of nearly a mile and stay under for 15 hours. The crew can use its arm to manipulate objects outside the hull.

Subassemblies: Body +3, Arm -3.
Powertrain: 160-kW fuel cell w/ 140-kW MHD tunnel.
Fuel: 180 lbs. hydrogen and 1,440 lbs. oxygen in fuel modules, 15 hours (fire 6).
Occupancy: 1 CCS, 2 CS

Armor	F	RL	B	T	U
All:	4/150	4/150	4/150	4/150	4/150

Equipment

Body: Arm retraction space; life support, 3 man-days, 3 men; onboard computer; sonar suite [1]. *Arm:* Arm motor and manipulators, ST 20; low-light TV.

Statistics

Size: 8' diameter *Payload:* 2,220 lbs. *Lwt.:* 14,600 lbs.
Volume: 286 cf *Maint.:* 32 hrs. *Price:* $400,000

HT: 12. HP: 1,800 Body, 32 each Arm.

wSpeed: 17 *wAccel:* 4 *wDecel:* 75 *wMR:* 0.75 *wSR:* 6
uSpeed: 15 *uAccel:* 3 *uDecel:* 75 *wMR:* 0.75 *wSR:* 6
Flotation 17,859 lbs. Surface draft 3.2'. Submerged draft 8.7'.
    Crush depth 5,120'.

Design Notes

Body is extra-heavy, expensive, and spherical. Area is 300 sf. Armor is expensive metal. The body is submersible; the arm is not, being externally mounted when deployed, but its components are engineered for high pressures. The arm's reach is 1 yard.

Utility Submersible

The utility submersible is a mainstay of commerce, used to haul passengers and cargo between surface and deep-sea sites. Its life support is good for half a day at full load – which is longer than most people are willing to spend in one!

Subassemblies: Body +5.
Powertrain: 2,200-kW fuel cell w/ 2,160-kW MHD tunnel.
Fuel: 2,310 lbs. hydrogen and 18,480 lbs. oxygen in fuel modules, 14 hours (fire 6).
Occupancy: 2 NCS, 30 CS

Armor	F	RL	B	T	U
All:	4/140	4/140	4/140	4/140	4/140

Equipment

Body: Communicator; life support, 16 man-days, 32 men; onboard computer; sonar suite [2].

Statistics

Size: 10'×10'×40' *Payload:* 27,190 lbs.
Lwt.: 91,500 lbs. *Volume:* 2,200 cf
Maint.: 14 hrs. *Price:* $2,020,000

HT: 12. HP: 7,200 Body.

wSpeed: 30 *wAccel:* 9 *wDecel:* 10 *wMR:* 0.5 *wSR:* 5
uSpeed: 35 *uAccel:* 6 *uDecel:* 5 *uMR:* 0.5 *uSR:* 5
Flotation 137,500 lbs. Surface draft 6.0'. Submerged draft 17.2'. Crush depth 720'.

Design Notes

Body is extra-heavy, expensive, with submarine hydrodynamic lines. Area is 1,200 sf. Armor is expensive, metal. The freight version carries 600 cf of cargo for loaded weight 97,740 lbs., with unchanged performance.

Air Vehicles

Air vehicles are powered by hydrogen-burning turbojet engines (called "hyperfans" on p. VE35) in a vectored-thrust configuration. Aircraft have two sets of performance figures. The first is based on using most of the engines' thrust as a source of lift (usually during takeoff or landing); the second is for level flight in which lift comes from airfoil surfaces and all of the craft's thrust is horizontal. VTOL designs have wings; jumpcraft are wingless but are configured as lifting bodies. The listed horizontal speed is attained with the full thrust of the hyperfans; operation at low thrust multiplies endurance ×4 and reduces speed, usually half the listed speed, allowing increased range.

Jumpbike

Jumpbikes are a minimalist's jet aircraft, amounting to no more than a pair of turbojet engines with a cycle seat in between. They carry just enough fuel for a half hour in the air, making them mainly recreational vehicles for thrillseekers attracted by their speed and maneuverability – "High enough to die" is a jumper catchphrase. Adventurers may think of other uses for them.

Subassemblies: Body +1.
Powertrain: 2×350-lb. vectored thrust turbofan.
Fuel: 57 lbs. hydrogen in cryogenic tanks, 0.7 hours (fire 6).
Occupancy: 1 XCCX (cycle)

Armor	F	RL	B	T	U
All:	2/2	2/2	2/2	2/2	2/2

Statistics
Size: 3'×1.5'×6' *Payload:* 257 lbs. *Lwt.:* 637 lbs.
Volume: 20.4 cf *Maint.:* 157 hrs. *Price:* $16,800

HT: 11. HP: 20 Body.

aSpeed: 135 *aAccel:* 2 *aDecel:* 18 *aMR:* 4.5 *aSR:* 2
Stall speed: 0.
aSpeed: 460 *aAccel:* 22 *aDecel:* 1 *aMR:* 0.25 *aSR:* 2
Stall speed: 90.

Design Notes
Body is extra-light, expensive, with very good streamlining and responsive structure and a lifting body configuration. Area is 52 sf. Armor is expensive, composite. The two sets of performance figures represent, respectively, takeoff/landing mode (thrust directed mainly downward) and horizontal flight mode (thrust directed horizontally; lift from the lifting body surfaces).

The standard model has no onboard computer, as most users prefer direct control; installation of a computer raises the price to $26,200 and lowers the maintenance interval to 124 hours, but gives aDecel 20, aMR 5, and aSR 3 in take-off/landing mode and aDecel 2, aMR 0.5, aSR 3 in horizontal flight mode.

Patrol Jumpcraft

The patrol jumpcraft provides fairly fast and maneuverable transport by air to law enforcement and light military forces.

Subassemblies: Body +5, Turret +2.
Powertrain: 4×4,000-lb. vectored thrust turbofan. Electrical offtake 160 kW.
Fuel: 2,310 lbs. hydrogen in fuel modules, 1.25 hours (fire 6).
Occupancy: 3 NCS, 6 CS

Armor	F	RL	B	T	U
Body:	4/20	4/20	4/20	4/20	4/20
Tur:	4/45	4/20	4/20	4/20	–

Weaponry
37mm autocannon [F:Tur] with CAT system, cyberslave mount, and partial stabilization (200 rounds Solid).

Equipment
Body: Communicator; duplicate controls; environmental control; onboard computer; radar suite [2].

Statistics
Size: 9'×7'×20' *Payload:* 4,430 lbs. *Lwt.:* 15,000 lbs.
Volume: 1,250 cf *Maint.:* 31 hrs. *Price:* $418,000

HT: 12. HP: 1,005 Body, 150 Turret.

aSpeed: 170 *aAccel:* 2 *aDecel:* 10 *aMR:* 2.5 *aSR:* 5
Stall speed: 0.
aSpeed: 560 *aAccel:* 22 *aDecel:* 1 *aMR:* 0.25 *aSR:* 5
Stall speed: 145.

Design Notes
Body is medium, expensive, with fair streamlining and a lifting body configuration. Area is 770 sf. Armor is expensive, laminate.

Utility Jumpcraft

The utility jumpcraft is used to haul cargo and supplies to industrial sites, and to ferry passengers around. Its performance profile is best suited to express service.

Subassemblies: Body +3.
Powertrain: 4×1,500-lb. vectored thrust turbofan. Electrical offtake 60 kW.
Fuel: 1,030 lbs. hydrogen in fuel modules, 1.27 hours (fire 6).
Occupancy: 1 CCS, 10 CS

Armor	F	RL	B	T	U
All:	2/2	2/2	2/2	2/2	2/2

Equipment
Body: Communicator; onboard computer; radar suite [1].

Statistics
Size: 8'×8'×12' *Payload:* 3,230 lbs. *Lwt.:* 6,560 lbs.
Volume: 550 cf *Maint.:* 49 hrs. *Price:* $170,000

HT: 12. HP: 300 Body.

aSpeed: 130 *aAccel:* 1 *aDecel:* 12 *aMR:* 3 *aSR:* 4
Stall speed: 0.
aSpeed: 510 *aAccel:* 21 *aDecel:* 1 *aMR:* 0.25 *aSR:* 4
Stall speed: 110.

Design Notes

Body is light, very expensive, with fair streamlining. Area is 250 sf. Armor is expensive, composite.

Utility VTOL

The utility VTOL is the mainstay of Poseidonian intermediate-range transport for both passengers and light cargo; its high level flight speed gives it a substantial travel range, over 1,000 miles, at a high speed. Explorers also favor it for its ability to land on almost any level surface.

Subassemblies: Body +5, Wings +3.
Powertrain: 2×14,500-lb. vectored thrust turbofan. Electrical offtake 290 kW backed up by 90,000-kWs batteries.
Fuel: 6,450 lbs. hydrogen in cryogenic tanks, 1.9 hours (fire 6).
Occupancy: 1 RCS, 10 CS

Armor	F	RL	B	T	U
All:	3/6	3/6	3/6	3/6	3/6

Equipment

Body: Communicator; life support, 3 man-days, 12 men; onboard computer; radar suite [2].

Statistics

Size: 9'×25'×45' *Payload:* 8,650 lbs. *Lwt.:* 27,325 lbs.
Volume: 3,060 cf *Maint.:* 18 hrs. *Price:* $1,240,000

HT: 11. HP: 810 Body, 270 each Wing.

aSpeed: 185 *aAccel:* 1 *aDecel:* 8 *aMR:* 2 *aSR:* 6
Stall speed: 0.
aSpeed: 600 *aAccel:* 21 *aDecel:* 24 *aMR:* 6 *aSR:* 6
Stall speed: 75.

Design Notes

Body is light, standard, with very good streamlining. Area is 1,800 sf. Armor is standard, metal. In low-thrust level flight its speed is 380 mph.

VTOL Striker

VTOL strikers are Poseidon's top-end military vehicles, capable of both stealth and high maneuverability.

Subassemblies: Body +5, Wings +3.
Powertrain: 13,500-lb. vectored thrust turbofan. Electrical offtake 135 kW.
Fuel: 2,550 lbs. hydrogen in fuel modules, 1.6 hours (fire 6).
Occupancy: 1 NCS

Armor	F	RL	B	T	U
All:	3/6	3/6	3/6	3/6	3/6

Weaponry

20mm assault cannon [F:Body] with CAT system, cyberslave mount, and full stabilization (1,500 rounds Solid). 6×90mm anti-vehicle missiles, HEAT, on two hard points [U:Wing] with targeting computer.

Equipment

Body: Communicator; ECM suite [5]; ejection seat; life support, 0.25 man-day, 1 man; onboard computer; radar suite [5]; VR cockpit.

Statistics

Size: 33'×7'×33' *Payload:* 3,317 lbs. *Lwt.:* 10,850 lbs.
Volume: 1,390 cf *Maint.:* 9 hrs. *Price:* $4,100,000

HT: 12. HP: 495 Body, 165 each Wing.

aSpeed: 655 *aAccel:* 5 *aDecel:* 12 *aMR:* 3 *aSR:* 6
Stall speed: 0.
aSpeed: 13,500 *aAccel:* 25 *aDecel:* 40 *aMR:* 10 *aSR:* 6

Design Notes

Body is light, expensive, with excellent streamlining and responsive structure. Area is 1,100 sf. Armor is expensive, laminated. Wings are designed for controlled instability; if the computerized control system fails the aircraft suffers catastrophic damage in less than 1 minute.

Hover Vehicles

APC Hovercraft

APC Hovercraft are ground vehicles, but their hover capability lets them operate over water also, an important function in Poseidon's environment. Combat troops rely on them for transport to battle sites.

Subassemblies: Body +4, GE Skirt +4, Turret +2.
Powertrain: 2,000-kW fuel cell with 8×330-kW ducted fan.
Fuel: 1,333 lbs. hydrogen in fuel modules, 8.9 hours (fire 6).
Occupancy: 2 NCS, 18 CS

Armor	F	RL	B	T	U
Body:	5/30	4/20	4/20	4/20	4/20
Skirt:	4/20	4/20	4/20	–	–
Tur:	6/40	5/30	4/20	5/30	–

Weaponry

37mm autocannon [F:Tur] with CAT system, cyberslave mount, and partial stabilization (150 rounds Solid). 90mm mounted missile launcher [F:Body] with targeting computer (6 anti-vehicle missiles, HEAT).

Equipment

Body: Communicator; environmental control, 20 men; onboard computer; radar suite [1]; ECM suite [2].

Statistics

Size: 12'×8'×16' *Payload:* 8,432 lbs. *Lwt.:* 25,632 lbs.
Volume: 1,370 cf *Maint.:* 21 hrs. *Price:* $869,000

HT: 12. HP: 1,800 Body, 1,200 Skirt, 375 Turret.

hSpeed: 125 *hAccel:* 1 *hDecel:* 10 *hMR:* 2.5 *hSR:* 5
Stall speed: 0. Hover height: 3'.

Design Notes

Body is heavy, expensive, with fair streamlining. Area is 1,125 sf. Armor is expensive, laminate, and sloped on the front of the body and the front, top, and sides of the turret. Maximum output from the fuel cell provides power for six of the eight fans; the two extra fans provide redundancy in case of systems failure.

Light Hovercraft

Light hovercraft function mainly as passenger vehicles, typically on one island; their independence of roads makes them preferable to wheeled vehicles.

Subassemblies: Body +5, GE Skirt +4.
Powertrain: 1,700-kW fuel cell with8×280-kW ducted fan.
Fuel: 1,200 lbs. hydrogen in fuel modules, 9.4 hours (fire 6).
Occupancy: 1 NCS, 50 CS

Armor	F	RL	B	T	U
All:	2/4	3/6	3/6	3/6	3/6

Equipment

Body: Communicator; environmental control, 52 men; onboard computer; radar suite [1].

Statistics

Size: 9'×9'×27' *Payload:* 11,400 lbs. *Lwt.:* 26,600 lbs.
Volume: 2,050 cf *Maint.:* 34 hrs. *Price:* $318,000

HT: 12. HP: 1,200 Body, 900 Skirt.

hSpeed: 120 *hAccel:* 1 *hDecel:* 10 *hMR:* 2.5 *hSR:* 5
Stall speed: 0. Hover height: 3'.

Design Notes

Body is medium, standard, with fair streamlining. Area is 1,400 sf. Armor is standard, composite. Maximum output from the fuel cell provides power for six of the eight fans; the two extra fans provide redundancy in case of systems failure. The freight version carries 1,000 cf of cargo for loaded weight 30,600 lbs., operating at a hover height of 2', which limits its use to smooth surfaces sloped at no more than 15°. It has HT 11, hSpeed 80, and hAccel 3 in this mode.

Heavy Hovercraft

Heavy hovercraft are chiefly used as freight vehicles. For passenger stats, see the *Design Notes*.

Subassemblies: Body +5, GE Skirt +5.
Powertrain: 4,000-kW fuel cell with12×330-kW ducted fan.
Fuel: 2,250 lbs. hydrogen in fuel modules, 7.5 hours (fire 6).
Occupancy: 1 RCS   *Cargo:* 1,600 cf

Armor	F	RL	B	T	U
All:	3/6	3/6	3/6	3/6	3/6

Equipment

Body: Communicator; environmental control; onboard computer; radar suite [1].

Statistics

Size: 10'×12'×33' *Payload:* 34,450 lbs. *Lwt.:* 60,415 lbs.
Volume: 3,350 cf *Maint.:* 24 hrs. *Price:* $705,000

HT: 11. HP: 1,500 Body, 1,200 Skirt.

hSpeed: 170 *hAccel*: 1 *hDecel:* 8 *hMR:* 2 *hSR:* 5
Stall speed: 0. Hover height: 3'.

Design Notes

Body is medium, standard, with fair streamlining. Area is 1,800 sf. Armor is standard, composite. A passenger version has cramped seats for 80 passengers, giving it payload 18,450 lbs., loaded weight 46,015 lbs., hSpeed 235, hAccel 3, and HT 12; all other statistics are unchanged.

Vehicular Sensors

A crew member on a vehicle can detect other vehicles (or creatures or objects) with a radar or sonar suite, if one is installed, or by visual observation. The basic ability involved is Electronics Operation: Sensors for radar or sonar, or Vision (see p. B92). Apply the following modifiers to it:

Add 20 radar; 15 for sonar; or 10 for visual observation.

Add the Size modifier of the target (for vehicles, this is the number listed for the vehicle's largest subassembly; otherwise, use the table on p. B201).

Subtract the Speed/Range modifier from the table on p. B201; however, speed is subtracted from range rather than added to it, as a moving target is more easily seen.

Add the numerical rating of a radar or sonar suite, or any bonuses to vision from biomods or equipment.

Subtract 2× the numerical rating of an ECM suite against radar only.

Give a +4 bonus to establish contact with a previously detected target using a new mode of detection or to examine a target more closely in the same mode of detection.

Give a -4 penalty to any sensor operator who is performing other tasks at the same time, including piloting the vehicle, firing a weapon, or operating other sensors.

If the total of these modifiers is -10 or worse, failure is automatic; no roll is made. If the total is +10 or better, success is automatic; make a roll, but treat any success as a critical success. Otherwise, consult the following table:

Degree of Success	Result
Critical failure	False detection or misidentification
Failure by 3+	No detection
Failure by 1-2	Detection; may be spoofed
Success by 0-2	Detection
Success by 3-4	Detection and recognition
Success by 5+ or critical success	Detection, recognition, and identification

Spoofing applies only to radar, and only when the vehicle being detected has an ECM suite. Ordinarily it means the detection of multiple spurious targets. The GM or player attempting a ranged attack chooses a number from 1 to 6; if a roll of 1d comes up with that number, the attack affects the correct target.

However, the operator of the ECM suite may attempt to create a "false recognition" reading. This requires a roll against Electronics Operation (Sensors). If it succeeds, then subsequent "detection, may be spoofed" results have the effect of the vehicle's being mistaken for some other vehicle or object.

Metwatch gave us the warning late last night. Not many of us got any sleep. We were too busy tying things down and moving the most delicate equipment into the storm bunker. By dawn the rain had started, and there was enough wind to knock you down if you weren't careful. Lieutenant Andros called us all inside just after 0900 local. We hadn't finished, but there was no more time.

Mother of God, it was awe-inspiring. I watched from inside the bunker, using the security perimeter pickups. It was pitch-black outside, even at what the clocks said was noon. Lightning flashes and the rumble of thunder never stopped. I could occasionally see the palm trees lining the beach, lying over until they were parallel to the ground. The rain was coming in horizontally, enough to reduce visibility to just a couple of meters. I think it could have pummeled a man to death, if he were unlucky enough to be caught outside. And then there were the waves and the storm surge, washing over the flimsy breakwater we had built as if it wasn't even there. It went on all day.

The trailing edge passed over just after sunset. We went out to assess the damage. The bioplastic huts we had just built were a total loss, and a lot of light items were simply gone. Debris was all over the beach. Fortunately nothing critical was lost. We'll be able to resume construction in the morning.

They tell me that was just a moderate cyclonic, comparable to the kind of hurricane that happens all the time on Earth. Poseidon can do much worse.

In fact, I see now why they named this planet Poseidon. Today we saw a sample of the god's wrath that not even Odysseus would have survived.

– GEO Peacekeeper Sergeant Aristides Stephanos,
journal entry (March 14, 2197)

THE SERPENTIS SYSTEM

The crew of the Prometheus II were the first humans to lay eyes on the Serpentis system. They passed through the Lorentzian wormhole in Earth's solar system in January 2078, and emerged that same day into the light of a foreign but strangely familiar sun.

Lambda Serpentis (Serpens)

Lambda Serpentis (also called "Serpens" by Poseidon's inhabitants) is a G0 main sequence star. It is very similar to Earth's sun, only slightly brighter and more massive than Sol. Like the sun, it is a relatively old member of the galactic disk. Despite their many similarities, Sol and Lambda Serpentis are not "sibling" stars. Serpens appears to be some 400 million years older than Sol, has a noticeably different composition, and probably formed in an entirely different part of the galaxy. At present the two stars are close neighbors by galactic standards, but their destinies are very different.

Serpens has five major satellites, along with a dense planetoid belt. The basic parameters for all of these bodies, including Poseidon itself, are described here.

Hephaestus

Serpens' innermost planet is Hephaestus, a hellish world that resembles Venus. Long ago, Hephaestus suffered a runaway greenhouse effect, boiling its oceans and turning the atmosphere into a dense, unbreathable stew. The planet is wreathed in reflective clouds, under which the surface temperatures are often high enough to melt lead. No human expedition has visited Hephaestus, although a few unmanned probes have been put in orbit or dropped into the atmosphere. From Poseidon, Hephaestus is visible as a bright morning or evening star, the brightest object in the sky after Serpens and the two moons.

Statistics: Lambda Serpentis

Spectral Type: G0 V.
Diameter: 814,000 miles.
Mass: 1.04 solar masses.
Luminosity: 1.04 solar units.
Effective Temperature: 6,000 kelvins.
Age: 5.0 billion years (Old Population I).

Statistics: Hephaestus

Diameter: 7,590 miles.
Mass: 0.893 Earth masses.
Density: 5.3 g/cm^3.
Surface Gravity: 0.97 G.
Orbital Radius: 0.7 AU (65.1 million miles).
Orbital Period: 209.8 standard days.
Rotational Period: 22.3 standard hours.
Axial Tilt: 14°.
Atmospheric Pressure: Superdense.
Atmospheric Composition: Carbon dioxide, nitrogen, some nitrogen and sulfur oxides.
Surface Water: None.
Temperature: 750°F.
Moons: None.
Population: None.

Poseidon

Poseidon is the prize of the Serpens system, a beautiful and human-habitable world. The initial *Argos 12* survey revealed a planet with uncanny similarities to Earth, its diameter, density, mass and surface gravity all very close to Earth normal. The most visually striking feature is its water, a vast belt of saltwater ocean that covers all but a small fraction of the surface. Dense cloud belts and brilliant ice caps reflect sunlight into space, contrasting with the deep blue of the world-spanning ocean, making Poseidon a jewel among worlds.

Poseidon is described in considerably more detail in the rest of this chapter and in Chapter 5.

Statistics: Poseidon

Diameter: 8,540 miles.
Mass: 1.133 Earth masses.
Density: 5.0 g/cm^3.
Surface Gravity: 0.98 G.
Orbital Radius: 1.1 AU (102 million miles).
Orbital Period: 413.2 standard days.
Rotational Period: 30.01 standard hours.
Axial Tilt: 29.1°.
Atmospheric Pressure: Dense (1.3 atmospheres).
Atmospheric Composition: Nitrogen, oxygen, carbon dioxide, traces of water vapor, argon, nitrogen oxides and sulfur oxides.
Surface Water: 97% surface coverage.
Temperature: 66°F.
Moons: Two large moons (Proteus and Nereus).
Population: 1.9 million (not including aborigines).

Proteus

Poseidon, like Earth, has an unusually large satellite that orbits at an unexpectedly great distance. Indeed, Poseidon's major satellite is even larger with respect to its primary than Luna, and has an even wider orbital path. This has led many to describe Poseidon as one component of a "double planet," two planetary bodies which are gravitationally bound together, but which orbit Serpens independently. Proteus is "tidally locked" to Poseidon, rotating about its axis exactly once per orbit about the planet. As a result, from any point on Proteus' surface, the water world appears fixed in the sky.

In some respects Proteus resembles Mars, although it is significantly larger and warmer. The atmosphere is very thin and contains almost no free oxygen. During the long local night, it gets so cold that the carbon dioxide in the air freezes out, causing atmospheric pressure to drop sharply. During the day, however, atmospheric pressure rises to a point at which humans can go out without a pressure suit for brief periods. The air is still unbreathable, of course, so a respirator and a supply of compressed air are required.

Like Mars, Proteus is too small to retain water vapor in its atmosphere. The surface of the moon is extremely dry and desolate. However, there are extensive deposits of water ice buried in underground aquifers. This water occasionally breaks free to the surface, forming short-lived water floods that soon evaporate or subside once again. The human settlements on Proteus can drill down to the aquifers and obtain enough water to support a limited population.

Overall, Proteus is more hospitable than Mars, and in fact supports a simple native ecology of native plant-like forms. Proteus life forms are well adapted to the harsh local conditions, able to "shell up" or scatter spores in preparation for the long nights, and extremely adept at conserving water. The thin atmosphere offers little protection from radiation and ultraviolet light, so the native life is either strongly radiation-resistant or can tolerate high mutation rates. Most Proteus life is sessile, unable to move from its rooting place. Those forms that can move are very slow, and show no signs of intelligence. Few local organisms respond to stimulation, and even fewer show any signs of aggression. Some local species produce unusual biochemicals, a few of which are highly poisonous to humans. Others produce pleasing fragrances or beautiful foliage, and are highly prized by collectors.

Proteus supports a single major settlement, Proteus City, which is located on the surface not far from the point at which Poseidon appears perpetually overhead. Most of the inhabitants of Proteus City are descended from Martians or belters. The city is a minor center of mining activity, manufacturing, and trade. Its main distinction is the presence of several GEO and Incorporate research teams, all of which are studying the local ecology.

Nereus

Nereus, Poseidon's second moon, is an astronomical puzzle. Although it is not as large as Proteus, it is of significant size, and it orbits at an even greater distance from Poseidon.

Statistics: Proteus

Diameter: 4,500 miles.
Mass: 0.164 Earth masses.
Density: 4.9 g/cm^3.
Surface Gravity: 0.51 G.
Orbital Radius: 365,000 miles.
Orbital Period: 45.3 standard days.
Rotational Period: 45.3 standard days.
Axial Tilt: 3°.
Atmospheric Pressure: Very Thin (0.4 atmospheres).
Atmospheric Composition: Nitrogen, carbon dioxide, traces of free oxygen.
Surface Water: No surface coverage, traces of underground water and ice.
Temperature: 64°F.
Population: 19,000.

Its orbit is also unusual, inclined to the plane of Poseidon's equator and somewhat eccentric (elliptical rather than circular). No credible model of planetary formation explains its existence. Even worse, its orbital path is inherently unstable – astronomers estimate that it could not have been in place for more than a few million years. The gravitational effects of Serpens and Proteus will eventually either eject Proteus from Poseidon orbit, or circularize its orbit into a more stable configuration. Some theorists point to Nereus as another piece of evidence for alien intervention in the Serpens system, but to date no evidence to support this idea has appeared on Nereus itself.

Nereus has a trace of atmosphere, although it is far too thin and toxic to support human life. Visitors to the planet must wear a pressure suit or other environmental gear. The moon also shows no trace of surface water or life. However, it is a mineral treasure-house. Extensive deposits of useful metals are present on and near the Nerean surface.

Nereus supports several Incorporate mining operations, most of them heavily automated with only minimal human staff. The single GEO outpost on the moon is a research station in the northern polar region.

Statistics: Nereus

Diameter: 3,080 miles.
Mass: 0.051 Earth masses.
Density: 4.75 g/cm^3.
Surface Gravity: 0.34 G.
Orbital Radius: 512,700 miles.
Orbital Period: 79.0 standard days.
Rotational Period: 29.5 standard days.
Axial Tilt: 32°.
Atmospheric Pressure: Trace (0.14 atmospheres).
Atmospheric Composition: Nitrogen, carbon dioxide, traces of argon.
Surface Water: None.
Temperature: 10°F.
Population: 1,100.

Serpentis Belt

Beyond the orbit of Poseidon lies the main body of the Serpentis Belt. This planetoid belt resembles the Main Belt in the Solar system, although it is somewhat denser. Its members are almost all of the stony-iron type, rich in metals, but very dry and lacking in organic compounds. The planetoids of the Serpentis Belt come in all sizes, from boulder-sized pieces of flotsam, up to a few chunks that are as much as 200 miles across.

The "dry" nature of the Serpentis Belt makes colonization an expensive proposition, but its mineral wealth still attracts thousands of independent prospectors every year. Most of these are from the belter clans of the Solar system, hoping to take up residence in a place that is at once familiar and more isolated from Earth's troubles. Their primary interest is to be left alone, although some of the larger Belt communities are involved in specialized manufacturing or commerce. For example, the Mirror habitat is well known for its production of custom-built machines and replacement parts, which match extremely fine tolerances. The Ariel habitat is a "smuggler's city," a center for both legitimate and illegal trade.

Statistics: Serpentis Belt

Orbital Radius: 1.4 AU to 1.8 AU (130 million miles to 167 million miles).
Orbital Period: Variable. Most members of the main body of the Belt have periods between 1.6 and 2.4 standard years.
Atmosphere: Vacuum.
Surface Water: None.
Temperature: Variable, usually between -85° and -35°F.
Population: 180,000.

The Gas Giants

The outer reaches of the Serpens system are occupied by three gas giant planets, similar to the Jovian worlds of the Solar system. These gas giants are among the more unusual features of the Serpens system – two out of three of them are actually well within the "snow line" which marks the usual inward boundary of gas-giant formation. Astronomers speculate that these giant planets were dragged inward by friction with the protoplanetary nebula, a process that has been inferred from observation of other star systems. Fortunately for Poseidon, this process was aborted at some point, preventing the embryonic gas giants from absorbing the small, rocky bodies of the inner system.

Aeolus orbits at about 2.3 AU (214 million miles) from Serpens. Aeolus is a smallish gas giant, somewhat smaller than Uranus in the Solar system. Its atmosphere is a thick blanket of hydrogen and helium, with traces of methane. It has a complex ring system and at least 20 moons, three of them of significant size. The miners of the Serpentis Belt often visit the Aeolus system in order to mine ice and organics from its moons. The largest of these satellites, Androcles, is the focus of this activity and hosts a permanent settlement of about 5,000 people.

Cronus orbits at 3.5 AU (326 million miles). Cronus is slightly larger than Saturn and resembles that world quite closely. It has a very large and complex ring system, which is a stunning sight through a telescope or in close flyby. There are occasional human expeditions to the planet and its extensive system of moons, but no permanent stations have been established.

Persephone orbits at 5.5 AU (512 million miles). About the size of Neptune, Persephone is an unremarkable world. Its ring system is thin, and there is nothing about its moons to attract human attention. Other than a single surveying expedition, there have been few visitors and no permanent settlements.

THE WORLD

The main focus for human activity in the Serpens system is Poseidon, the single habitable planet. Poseidon bears a striking resemblance to Earth, but there are also many differences that make it clear that the world is alien. This section describes the planet's physical and ecological environment.

Atmosphere and Climate

Poseidon's atmosphere is quite similar to Earth's. The proportions of nitrogen, oxygen, and carbon dioxide are all correct for human comfort. The atmosphere is somewhat denser than Earth's, the result of heavy volcanic activity and consequent outgassing. This results in increased air pressure at sea level, around 30% higher than on Earth. The higher air density does have significant effects: increased greenhouse effect, more lift for aircraft, stronger winds, and so on. It has little effect on the air's breathability.

Since Poseidon is almost completely covered by ocean, the air tends to be heavy with water vapor. Cloud cover is frequent and often thick. Between the dense cloud cover and the large ice caps, Poseidon reflects a great deal of sunlight back into space. In any case, the planet only receives about 85% of the solar energy that Earth does. Only the dense atmosphere and its consequent greenhouse effect serve to keep Poseidon at habitable temperatures.

Like Earth, Poseidon is divided into climate zones – the *tropics* close to the equator, the *temperate zones* in the northern and southern hemispheres, and the *polar zones* at the extreme north and south. Poseidon's significantly greater axial tilt means that weather variation is more extreme. Seasonal variations are somewhat more noticeable than on Earth, even in the equatorial regions.

On the other hand, the lack of large land masses tends to stabilize weather patterns on Poseidon. With no large continents to cause differential heating of the atmosphere or to divert ocean currents, the planet's weather patterns tend to be fairly consistent. Prevailing winds and ocean currents remain constant; regional temperatures tend to follow the same seasonal cycle each year.

The Pacifica Archipelago, where most of the human population of Poseidon lives, is almost entirely in the tropic zone. In most of the archipelago, summers are very hot and humid, while the winter temperatures almost never drop below freezing. Snow does appear in the region's rare highlands during winter, and on some volcanic peaks it lasts year-round.

The following table describes average temperatures at various latitudes for different times of the year. All temperatures are in degrees Fahrenheit.

Latitude	Summer Day	Summer Night	Winter Day	Winter Night
Up to 10°	104°	86°	72°	63°
10° to 20°	100°	82°	63°	54°
20° to 30°	99°	81°	54°	45°
30° to 40°	95°	77°	45°	36°
40° to 50°	90°	72°	28°	23°
50° to 60°	77°	59°	19°	10°
60° to 70°	59°	41°	7°	-4°
70° to 80°	41°	23°	-11°	-26°
80° to 90°	23°	5°	-22°	-36°

Cyclonic Storms

Earth has tropical storms and hurricanes. Poseidon has *lots* of tropical storms, *many* hurricanes, and the occasional giant storm that manages to circumnavigate the planet! Tropical storms, hurricanes, typhoons, and similar phenomena are all driven by the presence of warm, very moist air. On the water world, such air is abundant.

On Poseidon, hurricanes are called *cyclonic storms*. Cyclonic storms form wherever there is warm water, gathering energy from the heat of the water as they travel. On Poseidon, during each hemisphere's warm season, tropical storms form almost continuously. There is *always* at least one cyclonic storm in progress somewhere on the planet.

Cyclonic storms tend to move from east to west around the planet, drifting slowly away from the equator until they reach the cooler waters of the temperate zones and dissipate. Unfortunately, their movement is rarely predictable. Any cyclonic is capable of making rapid changes of direction, possibly even backtracking on its path. Some cyclonic storms oscillate north and south, staying over the warm tropical waters, gathering power with each pass across the equator. As a rule of thumb, a cyclonic storm will tend to gain 5d mph of wind speed each day that it spends over warm water. It will *lose* about the same amount of wind speed when in cooler waters, or over one of Poseidon's large landmasses.

Since Poseidon has so few large landmasses, cyclonic storms can last for months, even surviving the winter season by staying close to the equator. Such storms can even circumnavigate the planet, coming back to hit various settlements a second time. Poseidon's colonists call such storms "Noahs," referring to their biblical intensity.

Cyclonics are dangerous because of their high winds and the resulting waves. They also create sudden tides called *storm surges*, caused by the winds and by the low air pressure that exists under the storm. The storm surge and its resultant flooding are usually responsible for most of the loss of life during a storm.

A cyclonic storm usually has a well-defined *eye,* a low-pressure center about which the storm system rotates. The eye normally has a diameter about 10% that of the storm as a whole. In the eye, the winds are chaotic in direction and quite weak. The eye usually is cloudless, due to greater warmth and strong downward air currents. Being outdoors while the eye is passing overhead can be an awe-inspiring experience – the clear air allows one to see blue sky overhead and the mass of savage storm clouds towering on all sides. It can also be a very dangerous experience for the unwary. Most cyclonic storms move at about 35-40 mph, so the eye will usually pass in no more than a couple of hours. When the trailing edge of the eye arrives, the winds will surge quickly, and they will blow in the opposite direction from those preceding the eye.

Immediately outside the eye is the *eyewall,* the thickest bank of clouds in the storm. Precipitation is usually at its heaviest here, and there will be violent thunderstorms. The winds will normally reach their peak at a greater distance from the eye. In a cyclonic storm, the winds always blow around the eye in a counterclockwise direction.

The GEO Meteorological Service operates a storm watch across the entire planet, tagged "GEO Metwatch" in colonial slang. Storms are classified according to their Force Rating, which depends on the storm's size, wind velocity, and wave height. In the following table, *Waves* indicates the size of typical waves during the storm. The storm surge will usually be lower, but may approach the maximum height of the waves during more powerful storms. *Winds* indicates the speed of the winds in the heart of the storm. *Diameter* indicates the size of the storm itself.

Force Rating	Waves	Winds	Diameter
0	10-16 feet	Less than 75 mph	100-180 miles
1	16-23 feet	100-125 mph	125-300 miles
2	23-33 feet	125-160 mph	200-300 miles
3	33-49 feet	160-200 mph	300-450 miles
4	49-66 feet	200-240 mph	450-600 miles
5	Over 66 feet	Over 240 mph	Over 600 miles

GEO Metwatch also reserves a *Force 6* classification. Force 6 storms are much like Force 5 storms in their size and other characteristics, but in Metwatch's judgement they are likely to survive through to the following storm season. These titanic storms appear to occur only every 3 to 4 years.

Cyclonic Storms and Character Action

In general, *any* activity out in the full fury of a cyclonic is at a penalty equal to the Force rating of the storm. This applies even to actions based on IQ – it's very difficult to concentrate and think when being battered by 200-mph winds!

Vehicles and buildings are subject to damage or destruction when hit by a cyclonic storm. Aircraft pilots must make control rolls against their Piloting skill, or crash. Oceangoing surface vessels are subject to swamping or capsizing in even moderate tropical storms; the GM should make it difficult for players who are foolish enough to be out on the water during a cyclonic.

Settlements can't move when a cyclonic storm is on the way, and unfortunately most of Poseidon's land masses (ergo most of its settlements) are within the Storm Belt. The colonists have done their best to build in the shelter of natural terrain features and to apply advanced engineering to make their buildings storm-resistant.

GMs can simulate storm damage to buildings and other structures as follows. Roll against the Architecture skill of the person who *designed* the structure (rolling against the default is perfectly reasonable for "do-it-yourself" structures designed by amateurs). Modifiers: Up to +3 for careful or reinforced construction (or conversely up to -3 for shoddy or flimsy construction). Subtract up to the Force Rating of the storm, depending on how close the storm passes (if the eye itself passes overhead, subtract the full Force Rating). On a critical success, the building is soaked and may be covered with debris, but is otherwise intact. On a normal success, there is some internal flooding and superficial damage (missing roof tiles, broken windows, snapped mooring lines). On a failure, there is serious flooding and damage, and some shoddy buildings will be completely demolished. On a critical failure, the building is severely damaged or destroyed.

THE OCEAN

Adventurers in the *Blue Planet* setting will be spending a good deal of their time in and on the water. This isn't a matter of choice – when even the towns and cities are often built out over the water, it's almost impossible to avoid a swim.

This section covers some of the basics of oceanography, for the benefit of players and GMs who are not familiar with the subject. Reliance on Hollywood depictions of underwater activity is *not* advisable!

Properties of the Ocean

The underwater environment is in many ways as hostile and alien as outer space. Colonists working there will have to deal with extremes of pressure, temperature, and sensory deprivation.

Pressure

Any object immersed in a fluid will experience pressure over its entire surface. This is true even of objects in air – the atmosphere of Earth exerts a pressure of about 14.7 pounds per square inch (psi) at sea level, due to the weight of the entire column of air above. Human beings are rarely aware of this pressure, since it is balanced by the internal pressure of their bodily fluids.

Water is much heavier than air, so as one descends into deep water the resulting pressure increases very quickly. The human body is fairly resilient under such pressures, although they do make it difficult to breathe. Eventually the lungs can no longer be inflated against the pressure of the water. Some of the factors affecting respiration underwater are addressed later in this chapter (see *Breathing*, pp. 74-76).

Pressure also applies to submersible vehicles and structures. An airtight structure lowered into deep water will eventually implode as the water pressure overcomes its structural strength. There are two approaches to avoid this problem. A vehicle or structure can either be built with sufficient structural strength to withstand the pressure, or it can have an internal pressure sufficient to balance the external pressure.

An underwater structure that contains surface air pressure will have to be strongly reinforced to withstand the overpressure of the water. Anyone inside the structure will have to use pressurized airlocks to get in and out, and must be equipped to handle the rapid pressure transitions involved (p. 76). If there is a hull breach, the outside water will come in fast and under high pressure. Unfortunate submariners have been cut in half by such a stream of water forcing its way in through a hull breach at great depth. On the positive side, people can be transferred to and from the surface quickly, without having to undergo long periods of decompression.

Alternatively, if a submersible or underwater structure is pressurized to match its depth, then air locks are not needed. The air inside will keep the water out, so a simple open hatch on the underside of the structure will be sufficient for access.

The crew can enter or leave the water at will. If such a structure is damaged, water will come in, but it will only flow in by gravity and will only rise to the highest level of the breach. However, moving between the structure and the surface will take very long periods as the body adjusts to the transition (see p. 76).

Temperature

Poseidon's oceans are very similar to Earth's in terms of their temperature profile. The temperature of seawater in any given place depends on its depth.

The surface layer of the oceans, down to about 200 yards, is warmed by the sunlight and agitated by the above-surface weather. The average temperature of the surface layer, Poseidon-wide, is about 66°F. In the tropics, the water is somewhat warmer year-round. In temperate latitudes, it can be much cooler in the winter and spring, and warmer in the summer and fall seasons.

The intermediate layer of the oceans is about 200 to 300 yards deep. In this zone, sunlight no longer penetrates and the water is no longer warmed. Temperature in this layer decreases gradually with depth, reaching a constant 39° at the bottom of the layer. In the deeper zones, the water maintains this constant 39° throughout the year and all over Poseidon, slowly becoming more and more dense with increasing depth.

Light and Sound

Underwater, it is usually *dark*. Any light begins to dim after only a few yards. Before the light vanishes entirely, only the high-frequency wavelengths (blues and violets) are still visible. In absolutely pure water, light can only penetrate about 3,500 feet, and the seawater on Poseidon is far from pure. Seawater of average composition, with the usual amount of suspended sediments, will limit vision to about 650 feet. If the water is unusually murky, this horizon can be reduced sharply.

Divers usually find it necessary to carry their own light sources. Sunlight is not available below 650 feet in depth, and will probably be too dim for use long before then. This also implies that all organisms using photosynthesis are found above this depth (usually far above it).

Water is denser than air and carries sounds differently. The speed of sound in water is four times that in air. This effect makes it very difficult for a human listener to determine the source of a sound. The human nervous system determines the direction of a sound by noting which ear receives it first. The increased speed of sound in water confuses this system.

Sounds also carry much farther in water than they do in air. Human divers routinely underestimate the distance from which a sound has traveled. Indeed, in the *deep sound channel*, a zone between about 300 and 400 feet in depth, sounds are trapped and channeled by the water. Sounds can carry through this layer for miles. Indeed, certain low-frequency sounds can travel for *thousands* of miles almost unmuffled.

Sonar is a technology that uses sound pulses to probe the underwater environment. By emitting sharp pulses and then analyzing the echoes, sonar can be used to determine the size, shape, composition, distance, direction, and motion of underwater objects. Humans frequently use artificial sonar tools, while cetaceans have a natural echolocation sense that uses the same principle.

Tides

Tides are the rise and fall of local sea levels in a predictable pattern. They result from the gravitational attraction of Serpens and of Poseidon's moons. While this attraction causes even the solid body of Poseidon to flex, the oceans are more fluid and can change their shape more in response.

Poseidon has three overlapping tidal cycles. Those associated with Serpens and Nereus are relatively gentle, each about the strength of the solar tide on Earth. Proteus, however, causes a tidal effect several times more powerful than that exerted by Luna on Earth. The Proteus tide is the one of most concern to Poseidon's inhabitants, although the other two cycles are also watched carefully (especially when they reinforce the effect of Proteus).

The exact effect of the tide depends on the shape of the local coastline and the slope of the land shelf under the tidal margin. In some places, even the Proteus tide causes a rise and fall of only a few inches. In others, the change in sea level can be dozens of feet per cycle. Such strong tides can cause a dangerous phenomenon called a *tidal bore*. When the tide comes in to a restricted inlet, such as a river mouth or a narrow fjord, the mass of water can be constricted into a much smaller volume. The result can be a massive wave, as much as 10 feet in height.

In general, the GM should make certain that colonists working in coastal regions are concerned about the tides.

Large variations in sea level and powerful tidal bores will be much more common on Poseidon than they are on Earth. Of course, although the tidal cycles are more complex and therefore less predictable, the movement of Poseidon and its moons is completely predictable. GEO tidal charts are available for most of the planet, so adventurers should rarely be caught completely off-guard unless they are being careless.

Currents

Ocean currents are essentially "rivers in the sea," vast volumes of water moving at a steady pace through more stagnant regions. Currents are formed over time by temperature differentials, tidal flow, and the prevailing winds. On Earth, the ocean currents are broken up and deflected by the continents, but on Poseidon they are essentially unobstructed. Most currents move at a slow but steady pace, between 1 and 6 miles per hour.

Currents often alter local weather conditions. Cold currents bring about more inhospitable conditions in arctic and temperate climates, but they can lower the extreme heat near the equator. Warm-water currents can moderate extreme cold, but cause heat and humidity in already warm areas. Warm currents also provide extra energy for cyclonic storms, which can pick up speed and power as they cross the current. The temperature differentials across a current boundary can be quite sharp, taking place within a few hundred feet at the same depth. These edges are called *fronts* and can have a significant effect on the transmission of sound or sonar impulses.

Watercraft, especially the unpowered boats used by Poseidon's natives, can make good use of currents to cross wide expanses of open ocean. Organisms also use the currents to carry them to other habitats. The temperature changes caused by currents can also determine what organisms will thrive in a given location.

ADVENTURING UNDERWATER

The underwater environment poses several special problems for beings not adapted to it. Some creatures possess adaptations that allow a more or less normal existence in water. In *GURPS* terms, a character is *aquatic-adapted* if he possesses either the Amphibious advantage or the Aquatic disadvantage. Characters without either of these are *non-aquatic*.

The following rules extend those for underwater environments given on p. B91.

Every dive is a good dive if you return to the surface.
— *Jacques Cousteau*

Calculating Pressure

Pressure in Poseidon's oceans can be calculated with the following formula:

Pressure = 1.3 + (Depth / 34)
Pressure is given in atmospheres.
Depth is the depth in feet.

Partial Pressures of Gases

The *partial pressure* of a particular gas in a mixture is equal to the pressure of the mixture multiplied by the fraction made up of the gas in question. Most commonly, the partial pressure of nitrogen in breathing gas is of concern. Nitrogen comprises 78% of a standard air mixture. For example, air at 2.6 atmospheres contains a nitrogen partial pressure of $2.6 \times 78\% = 2.0$ atmospheres, which is enough to cause nitrogen narcosis.

Breathing

Air-breathing characters without the Gills advantage (p. CI56) are restricted to the following three approaches to venturing underwater: holding their breath, riding in a submersible vehicle, or diving with scuba gear or similar equipment. Holding breath uses the rules on p. B91. The advantages Breath-Holding (p. CI21) and Oxygen Storage (p. 29) increase the time a character can hold his breath. Riding in a vehicle that maintains air at one atmosphere of pressure requires no special rules for the character (although see p. 72 for rules regarding the vehicle). Using any equipment that subjects the body to the pressure of the water requires air to be supplied at a matching pressure.

This avoids any breathing difficulties, but pressurized air can cause several physiological problems, described below. Some of these problems can be eliminated or mitigated by breathing different combinations of gases. For pressures up to 11 atm., a mixture of helium and oxygen (*heliox*) is effective. Up to 18 atm., a carefully balanced *trimix* of helium, nitrogen, and oxygen can prevent problems. A cheaper and safer solution is to use *hydrox*, a mixture of hydrogen with less than 4% oxygen – there is no danger of combustion or explosion because of the low oxygen content. Genetic or biological modifications can also prevent some of the problems of breathing pressurized gases.

If air must be sucked from the atmosphere via a snorkel to a depth of 3 feet or more, the pressure of water on the diver's lungs will make this almost impossible – roll vs. ST every second, at -1 for every 1 foot over 3 feet of depth, to draw breath; on a failure apply the suffocation rules on p. B122.

The Bends

The blood and body tissues of a human breathing compressed air absorb gas via the lungs. This gas escapes from solution when the person returns to lower pressure. If the highest pressure experienced is greater than 2 atmospheres – or 24 feet deep in Poseidon's oceans – the amount of nitrogen escaping on decompression can be too great to be expelled through the lungs. Small bubbles of the gas form in the blood and muscle tissue, causing sharp pains in the joints and body, dizzy spells, and breathing difficulties. In severe cases, the blood flow to the heart or brain stops, leading to unconsciousness or death.

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The solution to this problem is to decompress slowly, spending time at certain intermediate pressures to allow the nitrogen to escape harmlessly. The decompression time required rises sharply with maximum pressure (i.e. diving depth) and time spent under pressure. Decompression can either take place at the appropriate water depth, or in a decompression chamber. The bends can also occur with other breathing gases – in fact, heliox and hydrox actually require longer decompression and, in the case of hydrox, careful changing of gas mixtures during decompression to avoid potentially explosive combinations.

At a certain point, the body tissues can absorb no more gas – they become saturated. Once this point is reached, the required decompression time does not increase further. A technique for maximizing the amount of useful time spent at depth is to operate at this saturation level for days, weeks, or longer. When returning to the surface, the same decompression time is required. This technique is called *saturation diving*.

If a character decompresses too quickly, he must make a roll versus HT:

Decompression Table

This table gives some of the salient decompression times for diving with compressed air (78% nitrogen) on Poseidon.

*This is a highly simplified table for game purposes and not a substitute for professional dive tables – this table **must** not be used to plan real life dives.*

Depth	24	40	70	90	120	145	200	400	1,000
Pressure	2.0	2.5	3.3	4.0	4.8	5.5	7.1	16	31
No Decompression Time	Unlimited	80	40	22	10	0	0	0	0
Saturation Time	–	2.5	5	8	12	18	24	24	24
Maximum Decompression	–	16	21	29	43	49	66	130	240

Depth is in feet, on Poseidon.

Pressure is the water pressure in atmospheres. Use this instead of Depth if calculating dive times on other worlds.

No Decompression Time is the maximum time in minutes that can be spent at that pressure without requiring a decompression routine.

Saturation Time is the time in hours after which the body is saturated with nitrogen.

Maximum Decompression is the length of decompression required for a saturated diver, in hours.

Critical success means no ill effects occur.

Success means the character suffers severe joint pains. He is at -2 to DX and IQ for at least an hour. Roll vs. HT each hour thereafter to recover. There are no lasting effects.

Failure means the character is completely incapacitated – he faints or is paralyzed for at least an hour. Roll vs. HT each hour to revive; each failed HT roll inflicts 1d damage. Once conscious, the victim is at -2 to DX and HT for at least another hour. Roll hourly vs. HT to recover; if the first such roll fails it indicates a permanent loss of 1 point of DX.

Critical failure indicates a sudden and painful death.

If an afflicted character is recompressed to the highest pressure he experienced, he rolls vs. HT+4 every five minutes to recover from all effects short of death.

Nitrogen Narcosis

At high pressures, nitrogen binds to fatty myelin tissue in the brain and inhibits normal mental processes. This causes symptoms similar to alcohol intoxication: heightened feelings of either euphoria or paranoia depending on emotional state, impaired judgment, and inability to perform simple mental tasks. If the condition progresses with further compression, it leads to fatigue, drowsiness, and loss of consciousness. Unlike alcohol intoxication, nitrogen narcosis occurs immediately, as soon as the pressure reaches certain levels.

Nitrogen narcosis vanishes quickly with no aftereffects if the victim returns to lower pressure. Unfortunately, people are usually unaware they are suffering from it, and often actively resist any attempt to force them to safety.

If the partial pressure of nitrogen (see p. 73) is over 2 atmospheres, any character susceptible to nitrogen narcosis has -1 to all IQ-based rolls, loses the Common Sense advantage (if he has it), and gains Impulsiveness. He also requires IQ rolls to perform even the simplest tasks, such as remembering to keep track of time or air supply. For each additional atmosphere of nitrogen partial pressure, an affected character acquires an additional -1 to IQ, and -2 to ST, to an effective minimum of IQ 6 and ST 3. Attribute penalties and acquired Impulsiveness caused by nitrogen narcosis are lost immediately if the nitrogen partial pressure falls below 2 atmospheres, and lost Common Sense is regained.

Hydrogen also causes narcosis at partial pressures above 29 atm. (about 1,000 feet deep with hydrox on Earth). Apply the same rules as for nitrogen narcosis if this occurs, although the physiological symptoms are hallucinations rather than intoxication.

Nitrogen narcosis can be prevented by using heliox instead of air. This has two drawbacks, however. Firstly, helium dissolves more readily in tissue than nitrogen, and decompression times must be increased up to twice as long. Secondly, helium can cause a new problem . . .

High Pressure Nervous Syndrome

This occurs at partial pressures of helium above 10 atmospheres. The gas diffuses into nerve tissue, causing muscle tremors, dizziness, nausea, drowsiness, difficulty concentrating, and visual hallucinations. These effects can be mitigated by using trimix instead of heliox, or by compressing slowly in stages, but can only be eliminated by switching to hydrox.

A character breathing helium at 10 atmospheres or more partial pressure must roll vs. HT, with a +1 bonus for either of the mitigating procedures mentioned above:

Critical success means minor muscle tremors, with no game effect.

Success indicates obvious tremors, causing -2 to all DX-based rolls.

Failure indicates tremors, dizziness, and nausea, causing -4 to DX and -2 to IQ.

Critical failure means the character suffers all the listed symptoms, causing -4 to DX and IQ. He may become paranoid and belligerent, or fall unconscious at the GM's option.

These effects last until the victim is removed from the high-pressure helium atmosphere, at which point he recovers immediately, but may stay asleep if already unconscious.

Oxygen Toxicity

Oxygen itself can cause damage at partial pressures above 0.6 atmospheres. Exposure for a few hours can cause lung inflammation and pulmonary edema – the leakage of fluid into the air spaces. At higher pressures, oxygen toxicity can be lethal. The only way to prevent damage is to avoid high partial pressures of oxygen. This means switching to gas mixtures with smaller proportions of oxygen during compression. As long as the partial pressure of oxygen is in the range 0.15 to 0.6 atmospheres, mammals can extract enough to survive safely.

If a person is exposed to high oxygen partial pressures, apply the following rules. Attribute penalties are not cumulative with increased pressures, but symptoms are.

0.6-1.5 atmospheres partial pressure of oxygen: Make a HT roll every 4 hours to avoid onset of symptoms. On a critical failure, the victim finds breathing painful and is beset by wracking coughs, causing a -2 penalty to DX. Once these symptoms begin, the victim must make a successful roll vs. HT every 10 minutes or take 1 point of damage.

1.6-2.5 atmospheres partial pressure of oxygen: Make a HT roll every 2 hours to avoid onset:

Failure indicates the victim suffers muscle twitches, dizziness, and nausea, causing -4 DX and -2 IQ penalties; roll vs. HT every five minutes to avoid 1 damage.

Critical failure indicates the victim goes into convulsions and automatically takes 1d-3 damage per minute. Convulsions do not stop until medical treatment is given – do not continue to roll vs. HT. If using scuba gear with a mouthpiece, make a DX roll every minute to avoid dislodging it and drowning.

2.6-3.5 atmospheres partial pressure of oxygen: Make a HT roll every hour. On a failure, vision and hearing become impaired; the character suffers -4 DX, -4 IQ, and an additional -2 on sense rolls. Once a diver has failed an hourly HT roll, he must roll vs. HT every minute:

Critical success indicates no further effect until the next HT roll.

Success indicates 1 point of damage from coughing.

Failure indicates the victim goes into convulsions as above.

Critical failure means death.

Greater than 3.5 atmospheres partial pressure of oxygen: As for 2.6-3.5 atmospheres, but make HT rolls to avoid onset every 30 minutes.

A character can only recover if removed to a lower-oxygen environment and given medical attention. A successful Physician roll will stop convulsions and reduce attribute penalties to -2 on DX. Lost hit points are recovered as per recovery from disease (p. B133), with a +4 bonus on any HT rolls for appropriate medical treatment. The -2 DX penalty is removed only when recovery is complete.

Pressure

High pressure is not intrinsically dangerous to humans over short time scales. If compressed slowly (taking 10 minutes per atmosphere), the human body can withstand pressures up to 100 atmospheres without physical damage. The problems associated with pressure have to do with the process of changing pressures, the toxic effects of gases absorbed through the lungs (see *Breathing*, pp. 47-76), and long-term exposure. The Pressure Support advantage (p. 30) helps to prevent these effects.

Divers who are compressed by more than 10 atmospheres without enough time for their bodies to adjust are subject to crushing damage. The Pressure Support advantage at the 10-point level or better protects against this damage completely. For divers with 5 points of Pressure Support or none, roll a Quick Contest of ST each second, with the pressure having a ST of 100. Pressure Support at the 5-point level gives +10 to this roll. Failure does thrust/crushing damage for ST equal to the amount by which the diver lost the contest. This number is reduced by DR effective against all crushing attacks.

If someone is exposed to high pressure *suddenly*, such as in a breached vehicle, the result is generally instant death. Characters with blocked sinuses or other air cavities such as decayed teeth will feel increasing discomfort and pain when compressed, even slowly, as the cavities are squeezed. Such pain causes a -1 penalty to DX and IQ-based rolls until it is relieved. The only solutions are to vent the cavities or to return to lower pressure.

Pressure can also cause problems when it is lowered. Bodily air cavities cause pain similar to t!.at caused when pressure increases. A worse problem is that expanding gas can rupture body tissues or penetrate blood vessels and form bubbles in the blood, conditions known as *embolisms*. This causes symptoms similar to the bends – GMs who assess a chance of gas embolism should apply the rules for the bends (p. 74), including treatment and recovery. The greatest risk of gas embolism comes from holding one's breath while ascending during a dive in which compressed gas has been breathed. As the gas in the lungs expands it must be exhaled or severe embolism is inevitable (treat HT roll results as one category worse, so any failure results in death). Panicked divers may forget this cardinal rule (IQ or Scuba roll to remember if mental state is agitated).

Prolonged exposure to high pressure causes stress to the cardiovascular and musculoskeletal systems. People living in environments more than 10 atmospheres higher than their native pressure must make annual rolls vs. HT+2. Failure permanently reduces HT by -1.

Aseptic Bone Necrosis

This is a long-term problem caused by the effects of decompression on capillaries in the bones. Tiny bubbles of gas coming out of solution can damage these blood vessels, weakening the bone. It most commonly occurs in the hip, shoulder, and knee joints, and leads to increased likelihood of fractures. The only cures are joint replacement surgery or medical treatment to rebuild the capillaries.

The GM may require an annual HT roll for any character engaging in frequent compression. A failure indicates onset of this condition, causing a permanent -1 to HT, unless treated surgically.

Cold and Heat

The rules for cold and heat on p. B130 are for exposure to air. Water has a much higher heat capacity than air and conducts heat away from the body rapidly. It also penetrates clothing, destroying any insulating effect. Warm water prevents the body from losing heat by sweating, making it worse than hot air. The result is that a character's temperature "comfort zone" (see *Temperature Tolerance*, p. CI30) is markedly reduced when in water. A baseline human, with a comfort zone in air of 35°F to 90°F (assuming suitable "everyday" clothing), has a comfort zone of only 75°F to 85°F in water. Diving suits can extend these zones (see p. 30). Aquatic-adapted characters have a default comfort zone of 50°F to 85°F in water – many animals have this zone shifted upward or downward to some extent.

Anyone immersed in water at a temperature below his comfort zone must roll vs. HT once per minute, taking 1 point of fatigue on a failure. This represents fatigue caused by shivering – if he is actively swimming he stays warm, but takes fatigue according to the swimming rules on p. B91. If the water temperature is more than 20 degrees below the comfort zone, a successful HT roll causes 1 point of fatigue, while a failed roll causes the number of points equal to the amount by which the roll failed. Once unconscious due to fatigue, the swimmer loses hit points instead.

Immersion in water close to freezing can also cause thermal shock. Anyone plunged into water with a temperature more than 20 degrees below his comfort zone and also below 35°F takes 1d-3 cold damage per minute, in addition to any fatigue. He must also roll vs. HT. A failure reduces DX and DX-based skills by -3 until he is warmed up. Critical failure indicates cardiac arrest, which reduces hit points to 0 if currently positive and causes death in HT/3 minutes unless CPR is given successfully (First Aid-4 or Physician roll).

A character in water *hotter* than his comfort zone also rolls vs. HT once per minute, taking 1 point of fatigue on a failure. If the water is more than 40 degrees above the comfort zone, the character also takes 1d-4 burn damage per minute. At 50 degrees above the comfort zone, the water is dangerously hot and causes 1d-4 burn damage per second.

problem. Aquatic characters suffer similarly if their eyes are exposed directly to air. The refractive index of water relative to air means that objects viewed through a flat window appear to be 25% larger and closer than they really are. This effect can be corrected by using a variable-thickness or spherical window, which is standard for diving masks and most submarine viewports.

Hearing: The increased speed and carrying distance of sound in water distorts sounds and makes it difficult to tell where a sound originates. Non-aquatic beings will also usually underestimate the distance a sound has traveled. Non-aquatic or aquatic-adapted characters in their non-native environment roll normally to *hear* a sound, but must succeed by 4 or more to localize or recognize it.

Taste and Smell: Non-aquatic characters cannot effectively taste or smell when underwater, even if they are not wearing masks.

Movement

Non-aquatic characters use the swimming rules on p. B91 to swim on the surface. Aquatic-adapted characters do not need Swimming skill. They automatically swim at their base Move without needing to roll (see *Aquatic*, p. 32).

Underwater, non-aquatic characters with an air supply must roll against Scuba skill (p. B48) every half hour, and need no Swimming rolls. They swim underwater at the same speed as on the surface, rolling for fatigue as per p. B91. Swim-fins give swimming Move bonuses (see p. 32). Non-aquatic characters may swim very long distances at a slow speed to minimize fatigue; speed is two times Swimming skill yards per minute, or three times if swim-fins are worn. Distance swimmers fatigue at the same rate as if marching on land (p. B134).

Aquatic-adapted characters move freely underwater at their full Move score. They swim long distances according to the marching rules on p. B187. Aquatic-adapted characters generally cannot make use of simple swim-fins, since their limbs and propulsion method are already optimized for pushing their bodies through water.

Senses

Non-aquatic characters have their senses adversely affected in an underwater environment, and characters with the Aquatic disadvantage have impaired senses while in air. Characters with the 10-point version of the Amphibious advantage do not suffer any penalties in either environment.

Vision: The absorption of light by water gives a -1 penalty on Vision rolls per T yards of range (see *Light Attenuation by Water*, this page), in addition to any low light penalties, for *all characters*. Non-aquatic characters have a further -4 to Vision rolls and suffer a -4 penalty on manual tasks requiring vision (such as Mechanic rolls) if their eyes are directly exposed to water – goggles or a mask will prevent this

Light Attenuation by Water

Water absorbs visible light and suspended particles scatter it, resulting in a drop in visibility with distance. These effects are combined in a numerical "transparency" rating, abbreviated T.

Light levels underwater on a sunny day are sufficient to incur no darkness penalty to a depth of 5T yards. Below that depth, darkness penalties are -1 per additional T yards (round down to a lower penalty). If the sky is overcast or darker, darkness penalties begin accumulating from the surface, and any above-water darkness penalty is added. Water preferentially absorbs red light, but particles do not affect this; below 50 feet everything takes on a greenish-blue cast and everyone effectively has the Color Blindness disadvantage (p. B28). Artificial light sources negate Color Blindness and any darkness penalty, but their light falls off at the same rate of -1 darkness penalty per T yards.

Vision and ladar Scan suffer a -1 penalty per T yards; vision is totally blocked at 10T yards. If the line of sight crosses a typical air-water boundary with waves or ripples, this causes an additional -2 penalty.

Laser weapons have their 1/2 Damage range limited to 2T yards, and Maximum range limited to 4T yards.

Laser communicators with 20-mile range have an underwater range of 5T yards; for each factor of 10 increase in range, add an additional 5T yards of underwater range. Data rate is 1/100 the rate in air or vacuum.

Typical T Values

Pure water	50
Very clear sea water (Gulf Stream)	25
Open sea	20
Continental shelf waters	10
Coastal waters	2
River plume	1
Harbors	<1

Combat

The *GURPS Basic Set* has rules for underwater combat on p. B91. Those are appropriate for non-aquatic characters. Aquatic-adapted characters follow the rules given here.

Firstly, such characters are efficient fighters underwater. They still have to work against the resistance of the water, but they are used to this. Rather than periodically rolling against Swimming skill in a fight, they roll against HT+3 every 10 seconds, taking 1 fatigue if they fail. They still suffer fatigue based on Encumbrance at the end of long fights (see p. B134).

Aquatic-adapted fighters also use weapons effectively. Close weapons (including fists) are used at no penalty, 1-hex weapons at -1, and longer weapons at an additional -2 per hex. (Thus, an aquaform uses a 3-hex weapon at -5 underwater, rather than the baseline human's -12.) They also suffer only -1 to damage with Close weapons underwater, rather than the normal penalty, though with other weapons they do damage as described in the following sections.

Hand-to-Hand Combat

Thrusting, impaling weapons are more effective underwater than swung weapons – they meet relatively little water resistance, whereas a full arm-swing meets a lot. To reflect this, damage from such weapons should be reduced by only one-third, rather than one-half, while damage from any drag-prone weapon requiring a roundhouse swing should be reduced by two-thirds. GMs may have to rule which weapons and attacks fall into which category on a case-by-case basis. Most commonly carried melee weapons underwater will be thrusting, such as knives and spears. Knives are particularly useful, since attacks targeted at the diving equipment of an air-breather can achieve lethal results without even touching the victim's skin.

Note that underwater combat is three-dimensional, with fighters able to pass over, under, and around each other. Aquatic-adapted beings can use their Athletic and Combat/Weapon skills normally when rolls against such skills are required to maneuver in combat. Non-aquatic combatants must roll against the lower of the skill in question and Swimming skill to perform such actions. Characters with 3-D Spatial Sense (p. CI31) have a +2 bonus to such rolls.

Ranged Attacks

The following rules apply to ranged weapons underwater:

Thrown weapons have 1/10 their usual 1/2 Damage and Maximum ranges, and do half their normal damage. (This means they do 1/4 listed damage between their reduced 1/2 Damage and Maximum ranges.) If this reduces the maximum range to 1 hex or less, they cannot be effectively thrown. This rule also applies to mechanically powered projectile weapons, such as spearguns or high-tech crossbows.

Guns and cannons firing conventional projectiles (not specially designed for underwater use) underwater have 1/1,000 their normal 1/2 Damage and Maximum ranges. Round 1/2 Damage range down and Maximum range up. If the modified 1/2 Damage range is 0, the bullet always does 1/2 damage underwater. Supercavitating bullets have 1/20 the normal 1/2 Damage and Maximum ranges. Indirect fire is not possible underwater. Modern guns are relatively safe to fire underwater or immediately after immersion. Older guns will malfunction and become unusable on a skill roll of 16 or higher; on a critical failure they explode.

The Psychology of Diving

Diving is arduous work, not only because of the physical difficulty and danger, but also because of the mental hardship of functioning in an alien environment.

Panic

The underwater environment can quickly cause panic in divers dependent on a constant air supply. Any unexpected event, particularly one interfering with air supply, can require a Fright Check (p. B93). Examples include: becoming entangled in seaweed or a net or line; the sudden, close appearance of a shark; having a facemask knocked off; or failure of breathing gear. Divers may substitute Scuba skill for IQ when calculating Will for such Fright Checks.

An air-breathing character who fails a Fright Check underwater must make a roll vs. HT. Failure indicates that he begins hyperventilating – if no air supply is available he must make a Will-4 roll to prevent inhaling water and roll an additional Fright Check at a -3 penalty. A hyperventilating person is unable to perform any rational action except make a Will-2 roll every 10 seconds to recover. He may behave erratically, bolting for the surface or flailing wildly; the GM may require DX rolls to avoid dislodging or damaging equipment, including breathing gear.

Long-Term Effects

In some cases, living underwater can be as lonely as existence anywhere in the universe. The limited utility of radio for keeping in contact with the outside world means people can be truly isolated. Confinement within a cramped vehicle or habitat with limited social interaction is a recipe for stress. Some people handle stress well. Some become antisocial and aggressive, while others become withdrawn and suffer feelings of inadequacy and low self-esteem. Forcing players to roleplay these effects may not suit some gamers, but the GM can use them to give life to NPCs and create dramatic incidents.

Seasonal Affective Disorder (SAD): This is a form of clinical depression caused by a biochemical imbalance of the hypothalamus gland due to a lack of sunlight. It affects surface-dwelling humans during winter months, and can be a permanent problem for underwater dwellers. The most effective treatment is exposure to bright light for several hours per day. Most underwater habitats have strong lighting installed in commonly used areas, with a brightness approaching full daylight.

Torpedoes are designed for use in water and suffer no penalties.

Explosions are more dangerous underwater because water transmits the concussive pressure waves much more readily than air. Triple all distance increments for concussion damage (see p. B121).

Radiation is attenuated by water. A yard of water has a radiation PF of 8 (see p. TS60). Note this is multiplicative; two yards of water has PF 64, and so on.

Any ranged attack that passes from air to water, or vice versa, should have the underwater part of its range reduced as above. For example, a bullet fired from air into water treats each hex after it enters the water as equivalent to 1,000 hexes in air – this usually means it penetrates a maximum of only 1 yard into the water. Refraction at the air-water boundary makes aiming across it difficult. Ranged attacks made from air into water or vice versa are at a -4 penalty.

ECOSYSTEMS

As on Earth, the interplay of topography, geology, climate, weather, and ocean currents creates specific environmental conditions that vary from place to place. These conditions affect Poseidon's life forms, encouraging the formation of local ecosystems. Like Earth, Poseidon has examples of coral reefs, deserts, kelp forests, savanna, scrublands, temperate forests, tropical forests, tundra, and other ecosystems familiar to human beings. Poseidon also supports habitat types not found on Earth.

Canyonlands

Poseidon is more tectonically active than Earth. In some cases, massive volcanic eruptions in the distant past created vast ash beds, which were then compacted into sedimentary rock over millions of years. Subsequent uplifting and block faulting can shatter these rock beds, leaving *tumbledowns*. These are huge regions covered with titanic boulders and high cliffs, interlaced with deep canyons. Where the tumbledowns are low enough in elevation, the sea can cover the bottom of the canyons, producing a maze of narrow channels and water-erosion caverns. These half-submerged tumbledowns are the *canyonlands*. Only a few exist even on Poseidon, the most notable being the formation known as the Wall (p. 105).

In canyonland formations, the tall rock shards are rarely large enough to be considered islands in their own right. They also provide no safe harbor for soil or vegetation. As a result, the formations in canyonlands are usually bare rock spires and outcroppings, covered with avian colonies and thick layers of guano.

Meanwhile, the sheltered channels and lagoons within the canyonland can support a great variety of plant and animal life. The tumbledowns provide significant protection against storms and powerful waves. In the sheltered waters, algae can grow on the base of the rock spires, and a variety of plant analogs can grow in the shallow water. Vines, rushes, and sea grass are all common in such environments. Indeed, ecologists believe that canyonlands hold the greatest diversity of marine plant species of any habitat on Poseidon. The density of plant life in the canyonlands also supports a healthy community of animal species. Both predators and the native colonists find the tumbledowns to be good ground for fishing or hunting.

The primary danger in a canyonland region comes from the simple flow of water. Tidal currents, confined by the high and narrow channels, can develop tremendous force. In some channels, water depth can change by 35 feet in a few seconds during an incoming tide, and that flow can be violently turbulent. Elsewhere, walls of water 15 feet high can surge through the channels several times a day, as tidal bores form in the narrowest channels.

Poseidon Mangrove

One of the most bizarre biomes present on the water world is the Poseidon mangrove forest. Poseidon mangrove is based on a class of tree-like plants, which grow in salt water in the tropical and subtropical latitudes. These forests tend to begin in the lee of small islands, reefs, or shoals, where they can gather a little protection against wind and storm. As they grow and spread, their long prop roots stabilize against the sea floor. Eventually the forest is physically stable even without the protection of the rocky mass that served as its first anchor. At that point, the mangroves can spread outwards as they grow, eventually overrunning its initial shelter. A mature Poseidon mangrove forest appears to have sprouted out of open ocean, with no sign of the initial land mass to be found.
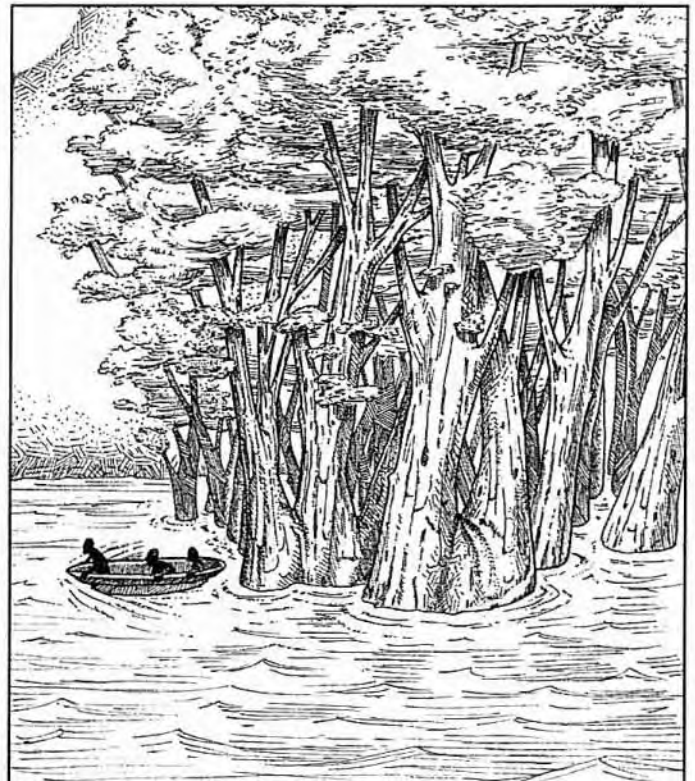
Stands of Poseidon mangrove can be as small as a dozen trees, or large enough to cover hundreds of square miles. They grow directly from the sea floor, putting prop roots down as deep as 80 feet under the surface. The individual trees are palm-like, with long trunks and huge leaves. The prop roots are long and flexible, anchoring the tree securely in the sea floor. Meanwhile, lateral branches grow from trunk to trunk, holding the forest together firmly against the action of wave and storm. The various species of mangrove tree tend to segregate themselves by proximity to the open ocean – the shorter, stouter, and stronger species grow on the perimeter, offering bracing and protection for the taller, less stable species further in.

On the fringe of a stand of mangrove, the trees are stunted by wind and wave, and are interspersed with tidal channels that are kept open by strong currents. Moving toward the center, the trees can become truly enormous, 200 feet or more in height and several yards in diameter. The tidal channels in the center become narrow, and are also very dark as the overhead canopy blocks out sunlight. These patterns of growth give a mature stand of mangrove a distinctive shape, tall in the center, with sloped ends aligned into the prevailing wind.

Within a stand of mangrove, there is a tremendous variety of plant species, many of which exist in a symbiotic relationship with the trees themselves. The interlaced lateral branches form a multilayer canopy, each level of which has its own distinctive ecology. Other epiphytic plant species, such as water hemp and various vines, grow in tremendous profusion amid the canopy. Under the water's surface, yet another ecology exists. The prop roots collect and trap organic matter that falls from above or drifts in on water currents. Many plant and plant-like species live off this trapped matter, forming another part of the ecosystem's food web.

Mangrove forests also host a great variety of animal species, both above and below the water's surface. Amphibians, reptiles, and even some mammaloids live in the canopy, using the lateral branches as pathways through the forest. Insect and avian analogs are everywhere. Even some species of *land* plants and animals survive in the mangrove. The lateral branches, like the roots, trap a great deal of organic material, giving rise to pockets of actual soil on which the land-based species can thrive. Meanwhile, vast schools of fish live in the waters below, including a number of predatory species.

Mangrove forests cover only a small portion of Poseidon's surface, but they apparently play an important role in the planet's overall ecology. Many open-ocean species use the mangrove stands in part of their life cycles. Some species lay their eggs and raise their young in the relative shelter of the trees, while others come to hunt for food. Juvenile polypods are common, and sea weaver nests are everywhere among the root systems. Even the largest predators, the hungry greater whites, have been known to come to mangrove islands to scavenge for food along the periphery.

The native colonists have often made use of the mangrove forests. They are choice hunting and fishing grounds, and they can provide plenty of shelter against predators and storms alike. After the Abandonment, many of the original colonists built whole villages within the mangrove canopies. Some of those villages still exist, inhabited by "wild" natives who have never been recontacted. Meanwhile, most native communities that enter a nomadic phase during hunting season use the mangrove stands for temporary campsites.

Sargassum Islands

Sargassum islands are another of Poseidon's unique biomes. Like the Poseidon mangroves, a sargassum island is a large colony of plant forms adapted to life on the open ocean. Unlike the mangroves, sargassum islands are free-floating, subject to the vagaries of wind, wave, and current. They are usually found in Poseidon's tropical and subtropical regions, since cold weather tends to slow or prevent their growth.

A sargassum island is composed of millions of algal life forms from several related species. The algae form a network of interconnected tendrils that bind the individual organisms together. These tendrils then sprout soft bladders, which are inflated through the diffusion of metabolic waste gases. These gas bladders provide buoyancy, keeping the interconnected algal growths afloat. As the algal masses compete for sunlight, the growth eventually forms a thick mat that may extend as much as six feet above the surface of the water. These mats vary constantly in shape and consistency. The top surface may be spongy or solid in different places, and may be high enough in the air to remain fairly dry. Under the surface, algal masses that have been cut off from sunlight die and decay, cutting out the support under the top layer, but at the same time providing fertilizer for all the surrounding mass.

The algal mats can extend over a wide area. The largest observed sargassum islands have been over 2,500 acres in size. Even these massive specimens are subject to storm damage, however. Storms tend to shred the sargassum islands, sending scraps far and wide (although the scraps may well continue their growth and establish new islands).

Despite their instability, sargassum islands are rich ecospheres in their own right. The floating mats trap a great deal of organic matter, both from the decay of dying layers of the mat, and from debris floating by in the current. Seeds of other plant species are carried to the mat by wind or current, and often grow well in this natural mulch. Some of the largest rafts even support small forests. A variety of animal species also find the sargassum environment congenial. Flying creatures can use the islands as a safe refuge for laying eggs or raising their young. Aquatic and amphibious animals also find the islands to be a convenient refuge or grazing area. Both the spongy surfaces and the dark undersides of the mat provide harbor for various species.

Of course, a sargassum island's riches also attract predators. Polypods, land lizards, and carniflora have all been observed on sargassum islands. Meanwhile, greater whites have been known to attack even very large rafts, breaking off chunks and devouring them (along with any animals that were unlucky enough to be standing in the wrong place at the critical moment).

The human colonists of Poseidon have found their own uses for the sargassum islands. The natives use them as hunting grounds and have also developed a keen understanding of

the medicinal properties of many plant species native to the islands. The larger, dryer islands can serve as temporary camps for hunting or fishing parties out in the open ocean. Newcomers involved in smuggling or terrorism have also been known to use the sargassum islands, as hideouts or as conveniently unmapped places to stash equipment.

Thermal Oases

Poseidon's polar wastes are, for the most part, much like Earth's. They are cold and arid, providing little way for any living things to survive. Since Poseidon is much more volcanically active than Earth, however, there are cases in which the polar cold is broken up by geologic heat. These thermal oases can host unique ecosystems of their own.

A thermal oasis is a place where hot springs, geysers, or warm underground rivers have broken through the cold. These areas are usually like small pockets of tundra, hosting mosses, lichens, some hardy scrub plants, and a few small animal species. A few oases are tucked away in sheltered valleys, and may shelter a more complex ecology.

The species living in thermal oases are not only very hardy, but adapted to change. No thermal oasis lasts forever – as tectonic forces shift, the supply of underground heat may subside. Thus many of the plant species produce windborne seeds, which can travel thousands of miles to find a new oasis. Animals are adapted to periodic migrations, which touch on several oases in the course of a Poseidon year.

Poseidon's polar regions have barely been explored at all, so most of the thermal oases have never been investigated by human researchers. Only a few of the smaller animal species have been identified. There is evidence of larger predators, which hunt in the icy waters and spend at least some of their time around the thermal oases. Polar explorers are advised to use caution.

Thermal oases can occur underwater as well as on land. In the polar seas, they can create thin spots or actual openings in the ice caps, providing a home for a variety of marine organisms. These oases have attracted the most attention from human investigators, since several significant Long John deposits have been found in their vicinity.

Tidal Mud Reefs

Poseidon has a number of species similar to Earthly coral, which build vast reefs and atolls. In contrast, the tidal mud reefs or "mud shallows" of Poseidon have no analog on Earth. They are usually found in shallow, sheltered temperate waters. Their basic organisms are a series of symbiotic bacteria, similar to the cyanobacteria of Earth. These microorganisms form huge colonies, building from the sea bottom and lifting their upper surfaces into the intertidal region to catch the light. Some species of Earth bacteria once built similar structures, the *stromatolites* that are found in very ancient sedimentary deposits. Of course, Earth's stromatolites were never more than a few yards across – while Poseidon's mud shallows can be hundreds of miles in diameter.

The mud reef microorganisms build their colonies right at the water's surface, so as to gather as much sunlight as possible. They vary in their tolerance for exposure to air, however, so each species must balance its need for sunlight against its need to avoid drying out. The most air-tolerant species build high, allowing themselves to be exposed for most of the tidal cycle. Other species build low, preferring to be slightly submerged even at low tide. The result is a landscape filled with shallow rises and canyons, interlaced with tidal pools and small channels.

Unlike a coral reef, which is built on the calcium-rich skeletons of its members, a tidal mud reef is built out of the drifting sediment and organic material that can be trapped by the colonial bacteria. As a result, a tidal mud reef is almost entirely composed of a thick organic mud, usually of a reddish-brown color (and with a pungent organic odor). The muds and oozes to be found in a tidal mud reef make it a dangerous place to visit. Traversing the flats on foot can be very risky – there are "quickmuds" that can suck an unwary visitor to his death within minutes. Meanwhile, large pockets of waste gas can form just under the surface. Anyone applying pressure to the surface over one of these bubbles can rupture it, falling into a large cavity that quickly fills with thick mud. Even the natives rarely make any attempt to penetrate into the center of a mud reef.

For all their danger, mud shallows are the sites of rich ecosystems. Many interesting microorganisms, fungi, plants, and small animals are specifically adapted to live in the ooze. Of course, some of these creatures are themselves dangerous predators, often attaching themselves to larger creatures like a leech or lamprey, or using lethal poisons to bring down prey. In the central regions of these enormous reefs, the debris can build up until dry islands form. These islands are usually organically rich and can support many land-based plant species. They can also provide safe refuge for a variety of animals. Some of Poseidon's rarest animal species have been catalogued on the islands formed by tidal mud reefs.

BESTIARY

The Poseidonian creatures in the following list are described in terms of a standard set of animal statistics:

ST, DX, IQ, HT: HT often has two numbers separated by a slash. The first number is the actual HT score; the second number is hit points. ST and hit points are usually given as ranges. DX, IQ, and HT may vary by a point or so in either direction for any species. If ST is shown as <1, this indicates that the lifeform is too small and weak to move any significant weight or injure a human-sized target by physical attack. If DX is <1, the lifeform is incapable of voluntary movement – not simply rooted in place, but lacking muscles or other organs that could exert force on its environment or its own body.

Move/Dodge: The listed Move is that used in the animal's most common situation – for example, flying for birds. If an animal has more than one form of movement, the others are defined in the text. Dodge (an animal's only active defense) is 1/2 DX or 1/2 Move, whichever is better.

PD/DR: Passive defense and damage resistance from the creature's hide or armor. Usually these do not vary for a particular species.

Damage: The listed damage is for the creature's most common form of attack. If a creature has more than one form of attack, the others are listed in the text. Listed damage is for an average member of the species; stronger creatures may do more. Abbreviations: cr = crushing, cut = cutting, imp = impaling.

Reach: Most creatures attack by "close combat" (C), a grapple or slam followed by an attempt to crush the foe or rip it to pieces. 1, 2, etc. = reach in hexes; R = ranged attack.

Size: The creature's size in hexes. Small creatures take up less than one hex; large ones take up two or more hexes.

Weight: The creature's weight, in pounds or tons, usually a range.

Habitat: Where the creature is commonly found; its primary habitat is listed first. Habitats are abbreviated as follows: A = arctic; CY = canyonlands; D = desert; F = forest (any temperate or subarctic forest); FW = freshwater aquatic; J = jungle (any tropical forest); M = mountain; P = plains (any grassland); PM = Poseidon mangrove; S = swamp; Sh = shoreline; SI = sargassum islands; Sub = subterranean; SW = saltwater aquatic; TO = thermal oases; TM = tidal mud reefs.

Creatures of the Sea

Blimp (Giordana fluitarus)

ST: 1	Move/Dodge: 0/0	Size: 240
DX: 6	PD/DR: 0/0	Weight: 10 lbs.
IQ: 2	Damage: *	Habitats: SW
HT: 10/2-8	Reach: 50	

* No physical attack; tentacles inject poison on contact.

Blimps are huge living gasbags, up to 130 feet long, filled with metabolically generated hydrogen that makes them capable of lighter-than-air flight. Long tentacles dangle in the sea below the gasbag, injecting a paralytic neurotoxin (see *Poisons*, p. 83) into any creature they brush against. Then the tentacles pull the creature up into the blimp's body to be digested. At night, as the air cools, the gasbag shrinks and the blimp descends to float on the surface of the water.

Blimps are found over tropical and subtropical seas across the entire planet. They have no economic significance. They are a navigational hazard to watercraft, especially sailing vessels. The sting of their tentacles can incapacitate a swimmer, resulting in drowning. Children in native communities seek out dying blimps stranded on their beaches and poke them with burning sticks to produce a startling pop as the hydrogen explodes.

Parallel Evolution

Poseidonian lifeforms are the products of billions of years of separate evolution; they have no relationship to Earth lifeforms. A Poseidonian "fish" may superficially resemble an Earth fish, but none of the taxonomic names for Earth fish apply to it; technically it's not a fish, or a vertebrate, or even an animal. Biologists frown on the use of such names; they may suggest comparisons that help people imagine the strange in terms of the familiar, but that very familiarity is an illusion – and may lead to dangerous mistakes.

On the other hand, some biological terms don't refer to a specific evolutionary history, but simply to a pattern of form and function. For example, "herbivore" means an animal that lives by eating plants; it's not the name of a particular taxonomic group of animals. And other names have both kinds of meaning: Carnivora are one group of mammals, but "carnivore" can also mean any animal that eats other animals. With the discovery of Poseidonian life, many more such dual meanings became convenient.

On 20th century Earth, before DNA sequencing provided the key to evolution, some zoologists suggested that "arthropods" included several groups with completely separate evolutionary histories. Because shrimp, scorpions, and silverfish all had rigid exoskeletons enclosing their entire bodies, it was argued, they had to have jointed legs and segmented bodies to enable them to move; so their similar body plans came from their similar life habits, not from shared ancestry. The chain beetle, fisherman, and rumble bee certainly share no ancestors with Earth arthropods, but they have exoskeleta, segmented bodies, and jointed legs, so calling them "arthropods" makes some sense. Just remember that it's only a verbal label, and Poseidonian "arthropods" and "vertebrates" are no relation to the Earth lifeforms called by these names.

Fisherman (Piscator piscataris)

ST: <1   Move/Dodge: 3/7   Size: <1
DX: 14   PD/DR: 1/1   Weight: <1 oz.
IQ: 2   Damage: *   Habitats: SW
HT: 15/1   Reach: C

* No physical attack; injects poison into water.

The fisherman resembles a winged insect 4-6" long. It has three pairs of legs covered with fine hairs that let it walk on the surface of the water – one pair for each body segment except the head. A pair of sacs on its back contain a store of a paralytic neurotoxin (see *Poisons*, this page). Injected into the water through a hollow proboscis, the toxin spreads out to fill one hex, affecting any creature that swims through it. The paralyzed creatures typically float to the surface, where the fisherman seizes and eats them.

Fishermen are native to the Haven Cluster. Native communities harvest their toxin and use it to coat their hunting weapons – and, according to some reports, weapons used in terrorist attacks on newcomers. Researchers with Lavender Organics and Biogene are investigating the metabolic pathways that synthesize this extraordinarily complex protein molecule.

Poisons

A wide range of Poseidonian lifeforms secrete poisons with varied effects. The following major types are typical and are referred to in some creature descriptions.

Nauseant

Nauseants require a roll against HT-6. On a success, the victim is nauseated and dizzy for 3d minutes, with -3 to all attribute and skill rolls. On a critical success, the unease is mild and does not impair performance. On a failure, the unease lasts 1d hours and the victim suffers 2d damage. On a critical failure, death results in 1d minutes.

If the nauseant's effects are produced by ingestion, a success indicates that the dose is expelled by vomiting.

Neurotoxin, Lethal

Lethal neurotoxin has the same effects as paralytic neurotoxin (see below), but in addition, on a failed roll, breathing stops, and the victim will die unless provided with artificial respiration for several hours. On a critical failure, the heart stops, with the same effects as for lethal electric shock (see p. 37).

Neurotoxin, Paralytic

Paralytic toxins interfere with the functioning of the nervous system. Roll against HT-3. On a success, the victim becomes paralyzed within 5 minutes and remains paralyzed for 3d minutes. On a critical success, no paralysis occurs. On a failure, the paralysis lasts for 6 hours. On a critical failure, the victim falls into a coma, total unconsciousness lasting 1d+6 hours. At the end of this period, roll against HT; if the roll fails, the coma lasts another 1d hours. If the coma lasts for more than 24 hours, the victim will be at -2 to all attribute and skill rolls for a duration equal to that of the coma after awakening. The players should not know how long the coma will last.

Paralytic toxin does not cause actual damage, nor does it interfere with breathing or heartbeat.

Mild paralytic toxin causes similar effects, but roll against unmodified HT. On any success, there are no effects; on a failure, paralysis lasts 3d minutes; on a critical failure, it lasts 6 hours.

Wound Venom

Wound venom is designed to produce death after some time has passed. The victim will die immediately only from a critical failure on an unmodified HT roll, but further rolls against HT-2 are required for the next three days, with any failure causing death. In addition, except on a critical success, the severity of the wound increases by the original amount of damage. If the victim is still alive after three days, the toxin is used up and the injury heals normally.

Note. Of these poisons, wound venom is a modified version of type A venom (p. CII147); paralytic toxins are variants on type D venom (p. CII148); and nauseant is a version of type F venom (p. CII149).

Ghoster (Retemanes spp.)

ST: <1   **Move/Dodge:** 0/0   **Size:** 100-500
DX: 1   **PD/DR:** 0/0   **Weight:** 50-250 lbs.
IQ: 1   **Damage:** *   **Habitats:** SW
HT: 16/1   **Reach:** C

* No physical attack; swarm attack inflicts electric shock.

Ghosters are individual organisms, but their behavior can be portrayed more accurately by defining them as swarms (p. B143) – or as hordes, which amount to very large swarms (pp. BE42-43). A ghoster is composed of a vast number of interlinked filaments, which form a translucent sheet that drifts near the surface of the ocean. Its metabolism generates an electrical potential between its surfaces, which can be discharged to stun or kill small marine organisms. The same discharges have been known to electrocute divers or even short out the electrical systems of watercraft that pass through them. Ghosters have almost no ability to resist physical attacks, but such attacks are not likely to kill them, but only to tear them into shreds that grow back into new ghosters; fire or poisons work best for actually killing them.

As a horde, a ghoster has the following statistics: Damage, 1d-1; Move, 0; Dispersed by 1 hit. The damage it inflicts is lethal electric shock (see p. 37). It takes 15 seconds for a ghoster to build up a charge in a discharged hex and attack again, but a victim who blunders into a new hex will suffer a new attack, and a large creature or watercraft may suffer many attacks simultaneously. A ghoster is not reduced to separate 1-hex swarms until at least half of its original hexes have been "dispersed," but dispersing a number of hexes equal to the square root of its original size will split it into two half-sized organisms.

The great fish moved silently through the night water, propelled by short sweeps of its crescent tail. The mouth was open just enough to permit a rush of water over the gills.
*– Peter Benchley, **Jaws***

Ghosters inhabit temperate oceans everywhere on the planet. Their only significance to human societies is as hazards, though EM scanners can detect their electric fields and enable swimmers or boats to avoid them.

Greater White (Leviathan dominatus)

ST: 1,000   **Move/Dodge:** 5/4   **Size:** 50-500
DX: 9   **PD/DR:** 2/4   **Weight:** 130-210 tons
IQ: 3   **Damage:** 6d × 40 cut   **Habitats:** SW
HT: 12/200   **Reach:** C

Greater whites are Poseidon's largest "fish" and are named for the sharks that they vaguely resemble, mostly in aggression, hunting style, and voraciousness. Up to 240 feet

long, the creatures' bodies support entire ecosystems of symbionts and parasites on their rough hides. As a defense against infestations, the hide constantly sloughs off in large sheets, giving the greater white a dirty white color and nauseating smell of decay. Greater whites feed on plankton in between hunts, but their huge jaws can also swallow larger living creatures or small boats up to 10 feet long whole, or tear apart bigger ones with multiple rows of bony ridges. Like Poseidonian fish generally, they have a secondary pair of jaws that open sideways overlapping the primary upper and lower jaws; the lateral jaws carry the filter feeding structures, while the upper and lower jaws have the cutting ridges.

Greater whites are found all over Poseidon, though mainly in areas rich in plankton. They are a potential threat to shipping, but as extremely large predators they are quite rare. A greater white that encounters a small boat is likely to rise out of the water and plunge down onto the craft; treat this as a trampling attack of 10d, due to the creature's enormous weight. Electromagnetic fields seem to attract such attacks.

Polypod (Multimembrum magnus)

ST: 20-30   **Move/Dodge:** 3/5   **Size:** 1-7
DX: 10   **PD/DR:** 0/0   **Weight:** 200-4,000 lbs.
IQ: 4   **Damage:** 5d cr   **Habitats:** SI, SW
HT: 15/50   **Reach:** 15

Polypods are ambush predators that especially favor sargassum island environments, which offer them many hiding places. A favorite tactic of large polypods is to extend their tentacles along the underside of a sargassum mat and wait for vibrations to indicate the presence of prey, toward which they make a surprise grappling attack. If this succeeds, they grasp the prey in multiple tentacles. (A polypod has from 4 to 12 tentacles.) They are able to squeeze themselves into a variety of other hiding places seemingly too small for them.

A tentacle attack is treated as a grapple. The polypod's ST is the ST of each tentacle; the polypod may attack with two tentacles in a single turn. A contest of ST is required to break free of the tentacles; to escape more than one, total their ST. A prey that fails to break free suffers a constriction attack on the following turn, which inflicts crushing damage. A tentacle can be severed by cutting damage equal to 1/4 the polypod's HP; such damage does not affect the polypod's overall HP. Impaling damage is not doubled against the tentacles.

Polypods are sexually dimorphic; the statistics shown are for the females. Male polypods are one-hex creatures weighing no more than 20 pounds and feeding on smaller prey. When sexually mature, a male will approach a female and, if she doesn't kill him, wrap his tentacles around her head and bite into her flesh. Over time, the female's flesh actually grows to enclose the male's entire body as a large lump. Old females may have over 20 such lumps, one per 200 lbs. of body weight; females continue to grow throughout their lives.

Offspring bud off adjacent to these lumps and eventually separate from the female.

Polypods live in temperate and tropical seas. The smaller specimens are hunted and eaten by natives. However, they also hunt human beings who venture into their domains; the larger females can be a major threat. Their skin secretions have a distinctive odor and support phosphorescent bacteria that reveal their presence in dark environments; a roll against Survival can give warning of a polypod's presence.

Spurt (Cometedae spp.)

Hard Spurt

ST: 7-9	**Move/Dodge:** 4/16	**Size:** 1-2
DX: 16	**PD/DR:** 2/1	**Weight:** 50-100 lbs.
IQ: 2	**Damage:** 1d-2 cut	**Habitats:** SW
HT: 11/6-8	**Reach:** C	

Soft Spurt

ST: 10-12	**Move/Dodge:** 1/12	**Size:** 1-10
DX: 12	**PD/DR:** 0/0	**Weight:** 125-475 lbs.
IQ: 2	**Damage:** *	**Habitats:** SW
HT: 11/9-12	**Reach:** C	

* No physical attack; flesh poisonous on contact.

Spurts come in two varieties, hard and soft. Hard spurts are protected by coiled shells resembling those of chambered nautili. They move about by drawing in water and expelling it as a jet, the source of their name; this is the basis for their high Dodge. They are hunters, with a bite that injects a mild neurotoxin (see boxed text).

Soft spurts have no DR, but their flesh is saturated with poison, and even a touch produces the effects of lethal neurotoxin (see boxed text); they are brightly colored to warn off predators. The soft species is a plankton feeder rather than an active carnivore.

Spurts are found all over the planet. Hard spurts are edible and are considered a delicacy. Soft spurts are lethally toxic if eaten –roll against HT-6 rather than HT-3. An extract of soft spurt flesh is used in native medicine as a topical treatment for fast fungus (see p. 89). Spurts are not a serious threat to human beings, but will inject venom into an unwary swimmer who blunders into one. The species described here are the largest; smaller varieties of both hard and soft spurts have been documented.

Stone Snake (Pseudoherpes tetragnathus)

ST: 20-24	**Move/Dodge:** 7/8	**Size:** 3-6
DX: 16	**PD/DR:** 0/2	**Weight:** 100-120 lbs.
IQ: 4	**Damage:** 4d imp	**Habitats:** SW
HT: 12-14	**Reach:** C	

Stone snakes actually resemble segmented worms more than snakes, being made up of multiple physiologically independent sections. Each segment has its own ring of eyespots. The stone snake is an air-breather, despite its aquatic habitat; it must surface to breathe every 90 minutes if active, though it can remain submerged several times as long if resting. Each segment has a separate breathing orifice and produces a hollow popping sound as it expels old air, audible up to half a mile away.

Stone snakes are stealth predators, lying on the bottom of shallow coastal waters, preferring muddy bottoms. When potential prey swims over, the stone snake propels itself upward and spears the swimmer on its long four-bladed jaws; if the attack succeeds it drags the prey to the bottom and waits until it stops struggling. The jaw structure tends to indicate some relationship to Poseidonian "fish," but from other anatomical differences it is probably a distant one.

Stone snakes are native to the Zion Islands. They are one of the planet's most deadly predators; they regularly attack human beings. They have been known to hole small boats. A roll against Survival or Area Knowledge (Zion Islands) will identify the characteristic noise of their breathing, giving warning that a lethal attack from below is possible.

Sunburst (Caneopoise benagus)

ST: 50   **Move/Dodge:** 4/4 **Size:** 3
DX: 9   **PD/DR:** 0/1   **Weight:** 1,000-1,800 lbs.
IQ: 4   **Damage:** 1d+1 cr **Habitats:** SW
HT: 12-14/24-28 **Reach:** C

The sunburst, or caneopoise, is an air-breathing sea creature roughly comparable to a mammal. Sunbursts are plankton feeders that congregate in huge herds, some comprising millions of individuals. They use sound both to communicate and as sonar, and in some areas of Poseidon's oceans their singing is a constant background noise.

During midafternoon, sunbursts habitually surface and bask in the sun. While they do so, seabirds of a particular species land on them and cleanse their skins of parasites, apparently the birds' sole source of nutrition, as they are only seen flying above sunburst herds.

Sunbursts range all over Poseidon, anywhere plankton is abundant, forming vast herds like those of North American bison in the 19th century. Their meat is a staple of the native diet. More recently, their skins have become fashionable as a commercial product; they are soft and smooth, with a silvery sheen, and retain their natural beauty when tanned. Conflict has begun to emerge between environmentalist and native groups calling for a moratorium, and commercial hunters who seek to maintain their industry, despite long-term threats to its profits from declining sunburst populations.

Am-bush encounters generate multiple puncture wounds. The projectile velocity of the seeds ordinarily is not sufficient to reach the body cavity; individual seeds are typically embedded in muscle tissue, from which they must be extracted surgically. Local anesthesia is sufficient for this procedure, but toxins released by the seeds on initial implantation produce intense pain; pain inhibitor administration should precede the surgical procedure to prevent unpredictable movements. Apply wound glue after extraction of embedded seeds.

The entire body surface facing the plant must be scanned for puncture wounds; the explosive dispersal can produce anomalous entry points. Victims should be retained under observation for 24 hours following injury; persistent pain or biomonitor evidence of systemic collapse indicate the continued presence of one or more seeds.

Continued release of toxins from unextracted seeds leads to accumulated serum concentration. Toxins cross the blood-brain barrier, after a delay of 12 to 24 hours. Their presence disrupts autonomic functions; cardiac and respiratory failure are typical. Prompt emergency stabilization is indicated, followed by seed removal as above. Administer 0.03% neurokathartin in normal saline via the carotid to flush unbonded toxins from the central nervous system. Maintain emergency stabilization until EEG scans are within normal parameters.

    *— from **Handbook of Emergency Treatment for Colonial Medical Practitioners** (third edition, 2197)*

Water Dart (Mitchella telumus)

ST: <1   **Move/Dodge:** 2/2   **Size:** <1
DX: 5   **PD/DR:** 0/0   **Weight:** 1 oz.
IQ: 2   **Damage:** 1d-1 imp   **Habitats:** SW
HT: 10/1   **Reach:** C

Water darts spend most of their lives as planktonic life-forms. However, when they reach sexual maturity they become parasitic. A female water dart swims at top speed at a large marine creature, preferably a mammaloid. If she hits, she rams her anterior spine into the victim's flesh, burrowing into its muscle tissue. The spine houses an egg sack; when the larvae hatch, they follow the host's circulatory system and gather in its body cavities to feed and grow until it dies. Vision rolls to see a water dart are at -2 because of its translucent body tissues.

The water dart is a significant threat to both the human and cetacean communities. Surgeons in frontier areas frequently have to remove egg sacks; a critical failure on the Surgery roll indicates that some eggs are missed, and much more expensive and difficult surgery will be needed after 1d months. Proposals have been made to map out the water dart life cycle in detail and exterminate the wild populations; this would be a series of expensive and difficult projects.

Creatures of the Land

Am-bush (Hashashim insipida)

ST: <1   **Move/Dodge:** 0/0   **Size:** 1
DX: <1   **PD/DR:** 0/0   **Weight:** 1 lb.
IQ: 1   **Damage:** *   **Habitats:** Sh
HT: 10/1   **Reach:** R

* No physical attack; seeds secrete poison on implantation.

The am-bush, also known as the assassin plant, grows on coastal rocks just above high tide. Eight to 10 leaf-bearing runners extend 30-50 feet from the central body and send rootlets into the rock to keep the plant attached. A bright red central seedpod holds large numbers of tiny, needle-like seeds and a quantity of copper perchlorate, a highly unstable explosive, which the plant synthesizes from ions extracted from the seawater. If an animal comes close to the seedpod after the seeds mature, it triggers an enzymatic ignition process, and the resulting explosion drives the seeds into its flesh. This inflicts fragmentation damage of 2d (see pp. B121-122), and the seeds release toxins that make the wounds extremely painful, producing effects equivalent to those of type F venom (see *Poisons*, p. 83). The victim will die immediately only from a critical failure on an unmodified HT roll, but further rolls against HT-6 are required for the next three days, with any failure causing death. This is thought to be a mechanism for seed dispersal, as well as ensuring a supply of nutrients for the seeds when they germinate.

The am-bush grows on Westcape and the islands close to it. Its seed dispersal mechanism is a hazard to the unwary. However, natives harvest it for the seedpod; the perchlorate content can be used to start fires or in vermin traps, while the

empty pod is used to make jewelry. Urban legend claims that native terrorists use seedpods as natural hand grenades.

Chain Beetle (Dorsalis givenius)

ST: 2	Move/Dodge: 3/7	Size: <1
DX: 14	PD/DR: 2/5	Weight: 2-4 lbs.
IQ: 2	Damage: 1d-4	Habitats: TM, Sh
HT: 15/2	Reach: C	

Chain beetles are amphibious arthropods (see Parallel Evolution, p. 82) with four segmented legs on each side and ventrally placed mouths with sharp nipping surfaces. Their armor is tough enough to resist most predators' attacks, and they have few natural enemies. Individual chain beetles are reclusive and seldom seen. However, the species has developed a form of chemical communication through which individuals link together front to back in colonies of up to two dozen. Colonies range over the land, attacking any animal they find on the ground, living or dead. They are effectively swarms (see p. B143), with the following statistics: Damage/Turn, 1d-1; Move, 3; Dispersed by 20 hits.

Chain beetles are found on the shores of temperate and tropical islands around the planet. The difficulty of killing them makes them not merely a major nuisance but a moderate threat. However, their shells provide useful material for needles, knives, and other tools and even for jewelry.

Digger Crab (Cancersimila fossionis)

ST: 2	Move/Dodge: 1/3	Size: <1
DX: 6	PD/DR: 2/1	Weight: 6-8 lbs.
IQ: 2	Damage: 1d-4 cut	Habitats: Sh
HT: 11/2	Reach: C	

Digger crabs somewhat resemble crustaceans, but exhibit complex social behavior like that of ants or termites. A group of males build an elaborate maze of tunnels within which a female rests and lays eggs, while the males fetch food to her. Digger crabs will eat almost anything organic. The males have heavy carapaces and six spindly legs ending in claws. The primary sensory organs are antennae that grow out of the legs, but rows of eyespots grow along the sides of their bodies. Females look almost nothing like males, being soft-bodied and functionally little more than egg sacs.

Digger crabs are most abundant in the Haven Cluster, but are found around the planet at tropical latitudes. Males are a valuable source of meat, and their carapaces are often used in handicrafts; females are considered inedible. People walking on beaches sometimes get stuck in sinkholes formed by the males' nest building. Digger crabs often nest around the stilts that support native dwellings, which may lead to structural collapse.

Eel Dragon (Anguillasimila volatilis)

ST: 1-2	Move/Dodge: 15/8	Size: <1
DX: 16	PD/DR: 0/0	Weight: 1-2 lbs.
IQ: 2	Damage: 1d-4 cut	Habitats: Sh
HT: 12/1	Reach: 1	

The eel dragon is an amphibian that is capable of true flight; it resembles an eel with large membranous wings suited to soaring. It is awkward on land and typically spends the night floating on the surface of the ocean. Eel dragons have no real heads and little in the way of a central nervous system. They hunt by dragging their barbed tails below the surface of the ocean. When an eel dragon snag a fish on its barbs (inflicting cutting damage), it flies upward and brings its tail up to its mouth, swallowing the prey whole.

Eel dragons are found soaring over temperate and tropical seas everywhere. They have no known uses and are a minor navigational hazard to air and hover vehicles; having one sucked into an air intake will shut down an engine on a failed roll against vehicle HT.

Hangin' Joe (Megapendula polybrachia)

ST: 15	Move/Dodge: 0/0	Size: 2-3
DX: 10	PD/DR: 0/1	Weight: 450-550 lbs.
IQ: 2	Damage: *	Habitats: PM
HT: 14/18-20	Reach: C	

*Attacks by grappling.

A hangin' joe is a mollusk-like creature of unusually large size, whose normal habitat is Poseidon mangrove trees. Its central body has a mottled brown color and is typically covered with moss and epiphytes, providing camouflage (-2 to Vision rolls). A hangin' joe extends 10 to 20 ropy tentacles up to 100 feet from its central mass and drapes them over branches or dangles them just below the surface of the water. When an animal brushes against a tentacle, the hangin' joe attempts a grappling attack; if it succeeds, it constricts its prey, doing 1d per turn until the animal breaks free (contest of ST required) or dies from its injuries. The hangin' joe pulls its dead prey up into the tree and tucks it under its body, where it uses a radula (a tongue coated with abrasive teeth) to strip off the decaying flesh.

Hangin' joes are found in tropical stands of Poseidon mangrove. They are dangerous predators, killing human beings regularly. Alert travelers may notice a faint sulfurous odor that betrays the presence of a hangin' joe.

Land Lizard (Malalongus ricardo)

ST: 35-40   **Move/Dodge:** 2/8   **Size:** 1-4
DX: 16   **PD/DR:** 0/0   **Weight:** 20-500 lbs.
IQ: 3   **Damage:** 2d+2 cut   **Habitats:** J
HT: 12/8-18   **Reach:** C

Land lizards are actually amphibians rather than reptiles; they lay eggs in the water, which hatch into aquatic larvae, and the adults are equally at home on land and in water. They actually move faster in water, propelled by sideways movements of their powerful tails. However, they feed mainly on land, burying themselves in the ground with their tails coiled, and then launching themselves at large animals that pass by. A successful attack with their narrow upper and lower jaws (they have all but lost the lateral jaws of their fishlike ancestors) tears out a large chunk of flesh from the prey, which collapses from shock and blood loss and is then devoured. The land lizard then drags itself back to its burrow, using two small limblike appendages (Move 1), and spends several days digesting its meal.

Found in the tropics, land lizards are a serious threat to human beings. However, their flesh brings a high price and can be found in expensive restaurants. Young native hunters in tropical communities bring back land lizards for their villages to feast on as a demonstration of skill in hunting. Many natives resent the sale of land lizards to immigrants, but hunters often find restaurateurs' prices hard to turn down.

Loggerhead (Parmata mzumba)

ST: 36-40   **Move/Dodge:** 1/4   **Size:** 1-2
DX: 9   **PD/DR:** 0/3   **Weight:** 650-1,250 lbs.
IQ: 3   **Damage:** 2d cut   **Habitats:** S
HT: 14/14-18   **Reach:** C

Loggerheads exhibit extreme sexual dimorphism. The statistics above are for females, which are huge but relatively passive, protected by massive shells. Males are tiny, eel-like organisms that live within crevices in the female's shell. The female spends most of her time sleeping, buried in mud. When prey come within reach of the female, the males attack as a swarm; their bites inject the target with type D venom (see *Poisons*, p. 83), but with the added property of paralyzing the respiratory muscles, so that the prey suffocates (see p. B122). If the males' attack succeeds, the female then emerges from the mud and feeds upon the prey.

Male loggerhead swarms have the following statistics: Damage/Turn, 1d-4; Move, 2; Dispersed by 5 hits.

Loggerheads inhabit the southern temperate zone. Both their meat and their shells are useful, but there is no commercial market for either as yet. Loggerhead bites kill unwary human colonists; roll against Survival to spot the site of a loggerhead nest.

Marsh Devil (Diabolus palus)

ST: 16-20   **Move/Dodge:** 7/8   **Size:** 2
DX: 16   **PD/DR:** 1/3   **Weight:** 550-750 lbs.
IQ: 3   **Damage:** 3d imp   **Habitats:** Sh, FW, S
HT: 13   **Reach:** C

Marsh devils are six-legged amphibian carnivores, feeding mainly on fish and other aquatic lifeforms, though they sometimes leave the water to hunt on land. In addition to their claws, they bite with sharp teeth for 1d cutting damage. They can sustain their full Move only by expending 1 Fatigue per second; their ordinary Move is 4. In contrast to the extreme sexual dimorphism of many Poseidonian lifeforms, marsh devils are hermaphrodites, though not self-fertilizing.

Marsh devils are native to the Sierra Nueva Cluster. Due to their size and aggressiveness, they are rare. They are considered a serious threat, as they are quite willing to attack humans and capable of killing them.

Nooniebird (Parabuceotida vulgaris)

ST: 1-2   **Move/Dodge:** 15/7   **Size:** <1
DX: 14   **PD/DR:** 0/0   **Weight:** 4-7 lbs.
IQ: 4   **Damage:** 1d-5 cut   **Habitats:** Sh, M
HT: 13/1-3   **Reach:** C

The nooniebird is named for an early 22nd century comedian, Noonie Flack, because of its talent for mimicry. Physically nooniebirds resemble hornbills, but have rudimentary claws on their wing joints. They build large communal nests in seaside cliffs. These nests are often filled with shiny objects that the birds picked up, including stolen tools and jewelry. A nooniebird can learn an entire sentence after hearing it once and may repeat it for days, until a new sentence takes its place.

Nooniebirds nest on Westcape and the islands that surround it, where they are known as chatterbirds. Their nests are large enough for a human being to climb into them, and natives sometimes use them for shelter from storms, or forage through them for stolen items. Nooniebird meat is stringy and tastes bad; a Will roll is needed to eat it, except for a character with No Sense of Smell/Taste (p. B29). However, the oil from their plumage has some value as a lubricant. Native resistance forces occasionally gain useful intelligence from conversation repeated by nooniebirds.

Poseidon Trilobite (Colacarius wernerii)

ST: **Move/Dodge:** 2/3   **Size:** 1-2
DX: 6   **PD/DR:** 2/2   **Weight:** 9-15 lbs.
IQ: 2   **Damage:** 2d-1 cut   **Habitats:** TM, Sh, SW
HT: 15/2-4   **Reach:** C

Trilobites are amphibious, leaving on seashores or in shallow water. They feed on carrion and decaying plant matter, and the young often infest human habitations looking for food, which has earned them the nickname "roaches." The trilobite is not edible, and in fact its flesh is a nauseant if ingested. Trilobites have brightly colored shells that seem to warn off predators. Glands along their dorsal surfaces produce a sticky luminescent secretion.

The body of a trilobite is encased in a heavy shell. Two massive forelegs are used in mating displays and to cling to large carcasses during feeding; the mouth is on the underside. Three pairs of walking legs support the body and enable the trilobite to crawl about.

Found on New Hawaii, the Poseidon trilobite is mainly a nuisance, due to its habit of infesting human buildings.

However, pens of adult trilobites provide a convenient method of organic waste disposal, especially in native communities. They are also harvested for the pigments from their bioluminescent glands.

Rumble Bee [Terabolla murmurus]

ST: 1	Move/Dodge: 5/4	Size: <1
DX: 5	PD/DR: 1/0	Weight: 6-8 oz.
IQ: 2	Damage: *	Habitats: G, F
HT: 12/1	Reach: C	

* No physical attack; stingers inject poison.

Rumble bees have formidable stingers growing out of their heads, which can inject a paralytic neurotoxin, but there is no record of a rumble bee ever attacking a human. Rumble bees have two pairs of wings and three sets of jointed legs. They are comparatively slow fliers. The beat of their wings makes a loud buzzing noise, which can be heard up to 50 yards away.

Rumble bees live in the tropical archipelagoes of the southern hemisphere. Native healers make their egg masses into a topical antibiotic. Native children often keep them as pets.

Stick Monkey
[Simiasimila ululatus]

ST:	Move/Dodge: 4/7	Size: <1
DX: 14	PD/DR: 0/0	Weight: 10-12 lbs.
IQ: 5	Damage: *	Habitats: J, F
HT: 11/2-4	Reach: C	

*No physical attack; bite is poisonous.

Stick monkeys, or squealers, are small, tree-climbing mammals with greenish bare skin that gives them a measure of camouflage (-2 to Vision rolls to detect them). They feed primarily on fruit. Their climbing abilities are enhanced by multi-jointed limbs, opposable digits, and prehensile tails. They travel in large, noisy gangs. While there is no known case of their trying to prey on human beings or any animal larger than an insect, they are skilled at throwing rotten fruit or their own feces at anyone who intrude on their territory; the target of such an attack requires a roll against Will + 2 to resist gagging. Their bite is also toxic, with nauseant effects.

Stick monkeys are found in tropic regions across the planet. They have no economic value. Basically, they are a nuisance, and one that is hard to control, thanks to their various mechanisms for self-defense.

Water Rat [Rodentis gregalis]

ST: 3-5	Move/Dodge: 3/7	Size: 1
DX: 14	PD/DR: 0/0	Weight: 25-35 lbs.
IQ: 4	Damage: 1d-4 cut	Habitats: FW, Sh, PM
HT: 13/5-7	Reach: C	

Water rats are omnivores, feeding on plants, insects, and any small animals they can catch. They live in extended family groups that dig dens in overhanging banks and remain there for generations. They have some skill in building, using natural materials to expand and improve their warrens. They are good swimmers, with small webbed feet, though they are strictly air breathing. Female water rats lay four to six leathery eggs per mating season, and then go out to hunt while the males guard the eggs.

Water rats live in the Zion Islands. They eagerly eat fast fungus and can be used to help keep decay under control; unfortunately, they also gnaw at wooden objects and can quickly gnaw enough holes in a boat so that it is no longer seaworthy. They become visibly anxious as a storm approaches. Their flesh can be eaten, but has a muddy taste and is tough; there is no market for it.

Fast Fungus [Vindexa spp.]

Species of fast fungus are found in nearly every terrestrial environment on Poseidon. They are actually symbiotic assemblages of fungoid mats and bacteria; the bacteria secrete enzymes that rapidly break down dead organic matter, enabling them to grow on nearly any organic material, even bioplastic. Colonists use chemical additives in materials to slow their growth; natives use counteragents derived from the local environment – and both must clean growths away constantly.

Some strains also attack human skin or hair; roll HT+1 to avoid infection after contact with spores. Treat such a condition as a generic infection (p. B134). The most noticeable symptom is intense itching; all skill rolls are at -1 due to distraction, and a daily Will roll is required to resist scratching. Giving in to the urge to scratch inflicts 1 point of damage on the infected location. An extract of soft spurt flesh (p. 85) is used in native communities to treat infection.

Fast fungus can't be described in terms of animal statistics, or even as a swarm. When it afflicts humans (or cetaceans), it's a disease; when it attacks inanimate objects or structures, it's a hazard.

SETTLEMENTS
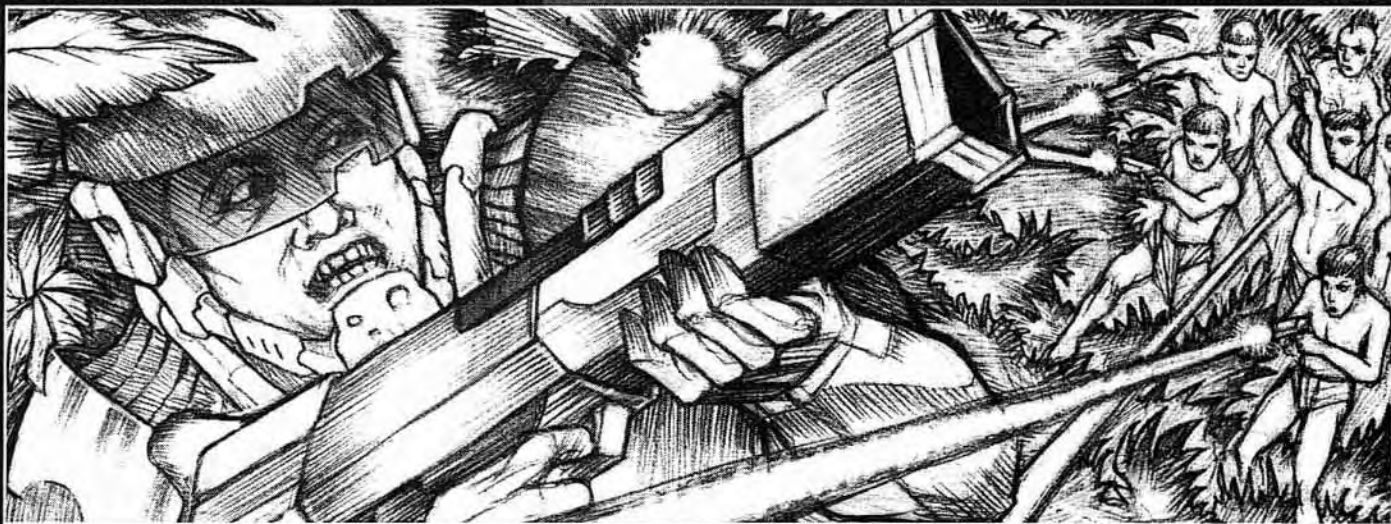
Oliveira waited. He was not nervous – he had long since become hardened against mere physical fear. He was, however, ill at ease. Wandering the streets of Dyfedd, poking into the city's darker corners, had been unpleasant. He wanted to be back on the clean frontier, away from the crowds and the machines and the million prying eyes.

Finally, the door opened. The woman who looked in on him was tall, blonde – attractive by newcomer standards. Oliveira's trained eye noted the outlines of the handgun concealed under her faux-leather jacket. "Headman Oliveira? Mr. Gorchoff is ready for you," she said, a Muscovite accent in her voice. Oliveira resolved to watch her very carefully.

Sergei Gorchoff was bald, heavy-jowled, and fat. His business suit was well-tailored, but ordinary in appearance. Oliveira's nostrils flared at his smell, his sweat carrying the tale of vodka, tobacco, and a diet rich in red meat. He carried no obvious weapons. He looked like a dissipated lawyer or banker, not like a member of the most powerful criminal syndicate on the planet. "Come in, gospodin Oliveira," he rumbled amiably. His accent was considerably thicker than the woman's.

Oliveira entered, glanced around, saw no chairs, and struck parade rest before Gorchoff's desk. "You've read my offer, I trust?"

The Russian nodded. "Da. Is most irregular. What made you think to come to my family for this business?"

Oliveira's left eyebrow quirked upward. "Mr. Gorchoff, I've spent the last three weeks looking into the question of who has been supplying the native rebels in the Northwest Territories. Your family's name came up more than once. We

would rather deal with you than with some Earth-based terrorist or maverick GEO operative."

"Very interesting," Gorchoff smiled. "Now suppose I to tell you that Gorchoff family has made no deals with Sierra Nueva natives? None at all."

For the first time, Oliveira was at a loss. "I would say that I find that hard to believe."

Gorchoff shrugged his massive shoulders, took out a cigarette, and lit it. "Pah. Rumors. We would be most interested to find out who has been supplying those madmen with guns. Our family has had no part in such trade. Just as well. Santa Elena tribes are insane. They would like to see all of us from Earth driven off Poseidon."

Not all of you, Oliveira thought. Your factories and your greedy schemes, yes. Not those of you who are willing to make your peace with this planet, the way we natives were forced to do long ago. Aloud, he ventured, "All right. You haven't sold the rebels guns. Will you sell them to me?"

Gorchoff chuckled. "I have read about your little war against Incorporate. What will you do if we sell you nothing?"

Oliveira shrugged, affecting unconcern. "Look elsewhere, I expect."

"Hah. No need. I think we can accommodate you. Of course, there will be price. Not just scrip. Other considerations."

Oliveira frowned. Suddenly the Russian's eyes, and his smile, reminded him of a creature he had read about from Earth's oceans, light-years away. For all his fat, Gorchoff suddenly resembled nothing so much as a shark.

Despite the unity that was imposed on Earth during the battle against the Blight, the homeworld remains divided and rife with conflict. The GEO, the restored United Nations, the Incorporate states, the Independent nations, all of these are engaged in a battle for survival and supremacy. This conflict also plays itself out in miniature on Poseidon, where still other factions have come into play. Natives, rebel bands, criminal organizations, and the aborigines also take part in an ongoing struggle for control of the water world's destiny.

The result is rampant social instability. Although the GEO maintains a veneer of control over the colony (just as it does on Earth) it is obvious to all that the situation cannot last. Violence is already common on a small scale, as Poseidon's dozens of factions indulge in attempts to adjust the local balance of power in their favor.

This chapter describes the human settlements on Poseidon, along with the various factions that command their loyalty. The chessboard is set up and waiting for the players to be seated. Here are the pieces.

THE NATIVES

Once we were star-children, masters of fusion fire and the long fall between suns. Now we are sea children, masters of the wind and wave. Our ancestors wove nets that covered worlds. Our own nets serve to bring in fish from the sea. When the world turns, as it always will, we may be star children once again. For now, our place is here, on Poseidon. Let me tell you a story of wind and wave . . .

*– Traditional storyteller's prelude,
Union Islands (recorded by Carstairs
anthropological expedition, 2196)*

One of the smallest (but most significant) colonist groups is the natives. These are descendants of the original settlers of Poseidon, the Athena Project colonists who landed over a century ago. The natives appear deceptively primitive, having given up most high-energy technology during the Abandonment. Many newcomers dismiss them contemptuously as "savages," but in truth they have developed a culture unique in human history – sophisticated as any civilization despite the absence of cities.

Origins

The original Athena Project colonists were human, although they had received some of the most advanced bio-implant surgery available at the time. As part of this procedure, even their genetic material was altered. Their descendants would naturally inherit the advantages that had first been gained through implant surgery.

At first, the Athena Project lived in a high-tech civilization on Poseidon. However, they lacked the infrastructure to maintain their technical base. Disaster loomed when the Abandonment took place and no resupply ships ever came. In response, the colony's leaders deliberately planned a transformation of their lifestyle. The natives dispersed into small settlements all across the Pacifica Archipelago and beyond. They gave up their advanced technology while still retaining as much of their scientific mindset as possible. They developed folkways and cultural traits that adapted them to their new way of life. The result was the distinctive native culture that exists today.

Native Genetics

In a precise technical sense, the natives of Poseidon are not quite human. That is, they are not members of the original human subspecies, *Homo sapiens sapiens*. Natives can interbreed with unmodified humans, so they are not members of a new species, but there are many physiological differences. The genetic sequences for aquaform physiology were spliced into the colonial genome, making the natives members of two new subspecies (defined by the "diver" and "squid" forms).

Although most Poseidon natives tend to mate with members of their own subspecies, this is not universal. Natives of different subspecies mate fairly frequently, and a native may (rarely) even mate with an unmodified newcomer. The GenDiver genetic scheme permits all of these combinations to be fertile. Although the genetic basis for aquaform physiology depends on many chromosomes, the scientists who designed the new genotypes placed special emphasis on the X chromosome. All the genes that activate the aquaform traits in the embryo are sited on that one chromosome. Since the X chromosome is one of the two that determines the sex of the new individual, the aquaform physiology is therefore "sex-linked."

Male children receive one X chromosome from their mother, and one Y chromosome from their father. A male therefore always inherits the subspecies membership of his mother. If she is a newcomer, then he will not be an aquaform at all. If she is an aquaform, he will also be an aquaform of the same type.

Female children receive two X chromosomes, one from each parent. The aquaform traits are dominant, meaning that they tend to express themselves even when they are only inherited from one parent. Thus if only one parent is an aquaform, a girl-child will also be an aquaform of the same type (although her own children may or may not be aquaforms in their turn). If both parents are aquaforms, but of different types, then a female child can exhibit the traits of either form. Which type she will eventually be depends on subtleties of hormone balance in the developing fetus, and is effectively random.

The facts of native genetics mean that most native communities include members of both aquaform subspecies. The two subspecies normally get along very amicably. Most villages do set up a strong division of labor between them, however. Squid usually are given responsibility for tasks that involve extended swimming and underwater work, while divers do both the deep-water work and surface-based tasks.

Technology

The natives have adopted a pre-industrial technological base. They are adept at using natural materials to make tools and useful items: seaweed and grass, clay, wood, and stone. A few villages do small-scale mining, and can produce items of copper or iron that are highly prized as trade goods. The natives are also very good at salvaging and recycling high-tech materials. Scrap metal, prefabricated plastics, and fiber-optic cable are often found serving a new purpose in the economy of a native village.

Cloth and Clothing

Water hemp is a particularly valuable resource. Water hemp fibers are long and resilient, retaining their strength even after repeated immersion. Water hemp cord can be twined into strong nets or ropes. The fibers can also be spun to produce a strong thread, which can then be woven into a light, tough fabric. This fabric, often embroidered or dyed, is the basis for much native clothing.

Natives of both sexes tend to wear simple wraps around their hips, allowing free movement and easy removal for swimming. Most women habitually wear a similar wrap around their chests, although some do not. This style of clothing is well suited for the climate in Poseidon's tropical regions. It is particularly popular among the aquaform natives, since all but the loosest clothing tends to block the gills.

Boats

Boats are almost ubiquitous in the native villages. The natives are, of course, superb swimmers – but for travel over long distances or carrying cargo, boats are a necessity. They have become thoroughly integrated into native life, playing a role in almost every activity. Sailboats are most common. Small boats may be oar-powered or paddled, with no more than a small auxiliary sail. Most of the boats built by natives using traditional methods are made of animal skins, treated and stretched over a wooden frame.

Adopted Technology

Just as the natives have continued to recycle high-tech materials and items inherited form the original colony, they have also taken to purchasing similar items from the newcomers. Almost every native village has obtained at least one modern watercraft, even if it's only an inflatable dinghy with an electric motor. Most villages have also acquired some solar-powered electronic equipment, especially communications gear and computers. Naturally, many villages have also gotten their hands on modern weapons. Not all of this equipment has been purchased legally from the major settlements like Haven. Warlike tribes consider high-tech goods (especially boats) to be a valued prize of battle.

Outsiders who consider the natives to be "primitive" are often surprised at the speed with which they adopt modern technology. Although the natives gave up much of their technological base, they never lost their pragmatic and scientific worldview. Even a village that has not seen a radio or a computer in decades has probably continued to teach its children exactly what those items are. If such gear falls into the village's hands, it will be put to good use at once.

Culture and Society

Naturally, native cultures vary from village to village. The easygoing tolerance of Second Try is very different from the harsh, warlike xenophobia of the Sierra Nueva tribes. Individuals within native society also vary dramatically, just as newcomers do. Still, native society does exhibit certain consistent trends that set it apart.

Most of these social traits are the result of the harsh conditions the natives faced after the Abandonment. Cut off from Earth, facing an often-hostile world, the natives had to develop traditions of pragmatism and intimate cooperation. No effort could be wasted. No individual could be allowed to cut himself off from the community. The result was a mindset very different from that of most people on crowded, overcivilized Earth.

Worldview

Native society is centered on the idea of the cooperative community. Everyday tasks are always approached cooperatively. Everyone assists with the raising and education of children. If a native needs help, he is not shy about asking – nor is he reluctant to lend a hand when needed. Personal independence is neither common nor much valued among the natives. An individualist is someone to be pitied and mistrusted, not admired.

On the other hand, native communities tend to be highly self-reliant. They are very reluctant to ask for help from outsiders, and will usually not accept it if offered. Indeed, they tend to be very resentful of any interference in their affairs. They also react badly to condescension. Many a GEO or Incorporate official who has belittled the "savage" native existence has met an extremely hostile reaction.

Natives place a great deal of value on personal integrity. A native's word of honor is his bond. He is expected to tell the truth and to carry through with his commitments. Paradoxically, most natives do not automatically trust or respect others, feeling that such trust must be earned through a demonstration of consistent trustworthiness. This does not inhibit relationships within a given village, but natives tend to greet strangers with mistrust and suspicion.

Most natives have very little concept of personal privacy. They are perfectly comfortable living intimately with a village full of other people. They are open with their emotions, easily laughing, weeping, or expressing anger in public. They often involve themselves in what outsiders would consider the "personal business" of others. Parents might be counseled on how to deal with their children, while mated couples may have the eager help of the whole village in resolving difficulties in their relationship.

This disregard for personal privacy extends to the physical body. Natives tend to be very frank about bodily functions, and show no shock or embarrassment when they must be dealt with in public. Partial or total nudity is very common,

especially during the hot season or in the tropics. Natives tend to have smaller "personal space" than newcomers. They often converse while standing or sitting almost in contact, often touching one another while gesturing.

As with other bodily functions, there is little embarrassment about sex. The formal institution of monogamous marriage is quite rare. Instead, couples (and occasional larger groups) form relationships that are more or less stable, but are not expected to last forever. Sexual relationships are not usually driven by romantic impulses. A couple may very well decide to pair off because they have a sound professional relationship, because they believe they would produce above-average children, or even because the village as a whole feels they should. In any case, child rearing is a communal effort, so there is no need for anything resembling a stable nuclear family.

The natives have inherited a great deal of the scientific worldview from their ancestors, who were among the best scientists and technicians on Earth. Native children are taught the habits of empirical thinking at a very young age, and many natives engage in scientific research to the limits of the available technology. Even those without a scientific bent tend to be very pragmatic. Most natives regard life as a matter for careful planning, determined effort, and hardheaded realism – not for wishful thinking.

Settlements

A native village is usually a cluster of wooden buildings, placed in a sheltered location to gain some protection from cyclonic storms. Villages are often sited in the cones of dormant volcanoes, or in narrow canyons that offer good shelter. Most villages have at least token defenses, such as wooden fences or a palisade – even if the natives are not habitually at war, they prefer to keep aggressive or curious predators out. Most buildings have more than one story, with thatched roofs and plenty of openings in the walls to let the breeze through.

In a village, the houses are usually arranged in a circle around a central fire pit. The center of the village is a communal area, where the inhabitants gather for councils or for social activity. Outside the ring of houses, the village will build secondary structures, such as rabbit hutches, pigpens, smokehouses, or storage sheds. Paths away from the village will lead to the nearest beach and the docks.

The "hut village" is by no means the only kind of settlement. Within the Storm Belt, some natives have taken to living in cavern complexes, sometimes even in underwater caves that are accessible only through long submerged tunnels. Such settlements are very likely to include cetacean members. Outside the Storm Belt, there are some native tribes who live on the water year-round, inhabiting floating villages of rafts and houseboats. Some of the larger raft-towns are no longer nomadic, and have not moved as a whole in years even through they remain on the water.

Agriculture and Aquaculture

Like the Neolithic ancestors whose lifestyle they imitate, the natives make their living through hunting, fishing, and subsistence agriculture. Several food animals were imported to Poseidon from Earth with the Athena Project expedition. The natives have also learned to utilize many of the species native to the water world.

Rabbits are a common food animal for native settlements that have a stable base on land. They produce a great deal of meat for their body mass, and the rabbits imported to Poseidon were genetically modified to improve this ratio further. They also make amiable pets, and are often put in the care of the village's children and young adults. They do require a fair amount of protection, being rather delicate (and a favorite of many predators).

Pot-bellied pigs are also very common, and are even more useful than rabbits as food animals. Capable of living on almost anything, the pigs produce a great deal of fat-laden, but very flavorful, meat. The pigs are hardier than rabbits and produce large litters of their own, making them easier to protect and raise.

A food species distinctive to Poseidon is the marine iguana that almost every native settlement raises. The Athena Project scientists genetically modified the Poseidon iguana. Even before modification, it was nearly ideal for the warm, wet environment of the Pacifica Archipelago. Fairly omnivorous, taking up very little space, the iguana could be raised in large numbers in aquatic pens. The genetic modifications made it a better meat source and increased its rate of reproduction.

Soon after the initial colonization of Poseidon, some modified marine iguanas escaped into the wild – where they have spent the last century undergoing a population boom of their own. They quickly forced several less aggressive native scavengers out of their ecological niches, and in turn were largely ignored by native predators. Today, the wild iguanas can be found all over Poseidon, sunning themselves by the dozen on even the smallest atolls or rock outcrops. Before the Long John rush, the iguanas represented the largest disturbance in Poseidon's natural ecology – but their omnipresence also means that a human being can travel almost anywhere on the planet and still be able to scrounge a quick meal.

Despite the use of these land animals for food, the mainstay of the native diet usually comes from the sea. Seaweed and kelp are often harvested, for food and for materials used in various native industries. Meanwhile, the natives use net fishing to bring in schools of fish. Many villages have taken to keeping Poseidon's native fish in captivity, using hanging nets or (rarely) electric fences; these captive fish are selectively bred for size and meat production. Line fishing is often used to catch larger fish. The natives also take advantage of their own amphibious abilities to go spear fishing, allowing them to hunt the larger game fish that would avoid a net or line. Finally, the natives use a wide variety of traps and pots, to catch indigenous crustaceans and shellfish.

At the high end of the scale, many native groups hunt the large mammaloids that swim in Poseidon's oceans. The most common prey species is the caneopoise or "sunburst" (p. 86). Providing meat, skins, bone, and other useful resources, the sunburst is pursued in long seasonal hunts that follow the usual migration patterns. GEO authorities are concerned that the sunburst herds are being badly depleted, although the primary cause for this is newcomer poaching rather than the traditional native hunts.

The Native's Day

A native community normally begins its day at dawn, with adults and children alike rising early. After a small meal, the villagers will disperse to their main tasks for the day. Those assigned to the fishing fleet will load up their boats and set sail. Others will move to the rabbit hutches, pig and iguana pens, or the aquaculture facilities offshore.

Adults and children work together. This is considered part of the process of education, which all native communities take very seriously. Participation in the day's chores is interspersed with practical instruction, including lessons in the sciences. Children are encouraged from a very young age to take an empirical approach to the world. Naturally, the children have plenty of time for play, under the watchful eye of any villagers who are doing light work in the communal areas.

Most of the native villages are located in the tropics, and have taken up a custom similar to the Latin American siesta. A light meal of smoked fish and seaweed is followed by a nap or a time of quiet activity. Fishing boats may stay out to sea through the middle of the day, but the crews will take a break from work and take refreshing dives into the cooler deep water.

In the evening, after most of the day's work is done, the villagers gather for communal time. The adults take turns preparing the evening meal, which is usually the largest of the day. After food is taken in company, the villagers sit and do light work: carving, repairing lines or nets, and so on. While their hands are busy, they gossip, trade stories, tell jokes, make plans, and discuss issues of community importance. Soon after sunset, they disperse to their homes for the night.

The daily routine is varied with the cycle of the seasons. Most native settlements are in the heart of the tropics, preferring the warm, wet climate. Unfortunately, this places the villages in the heart of the Storm Belt as well, bringing repeated cyclonic storms at certain points in the year. The natives have adapted to this cycle. Most villages that are subject to storms have a "storm shelter" in reserve, a cavern complex or deep defile in which the villagers can stay out of the weather. When storm season comes, the villagers abandon their usual camps and move into shelter. This is a time to live off stockpiled food, do small handicrafts, and enjoy the intimacy of community life while Poseidon rages outside.

Ritual and Ceremony

When the Athena Project colonists chose to "declare independence" from high-tech civilization, one of the difficulties they faced was the maintenance of continuity and cohesion in their communities. Without high technology, they knew they would have to find different ways to retain useful knowledge, pass it along to new generations, and give small groups a strong communal identity. To solve this problem, they drew on one of the oldest of human institutions: the prevalence of communal ritual.

Such rituals could not be based on any kind of religion. Although some of the original colonists were followers of one Earth-bound sect or another, the only faith they all shared was a hard-nosed faith in logical pragmatism. Instead, the colonists chose to construct ritual observances, investing them with no mystical powers, but using them to build a sense of community. The methods used for this were varied. Some of the dispersed settlements drew on common elements of Earth-based ritual: birth ceremonies, rites of passage into adulthood, funeral services, and so on. Others simply allowed ritual to evolve naturally, on the theory that "anything that happens more than once is a tradition." Most of the native settlements had an active ceremonial life within a generation or so after the Abandonment. Today, although there is great variety in ritual observance, most native groups have a few core rituals in common.

Births are very important in these small subsistence communities, so a healthy birth is usually celebrated with several nights of feasting and revelry. Several nights after the birth, the newborn is immersed in the sea, as a symbolic baptism and a test of the infant's diving reflexes. Most native groups call this event the Welcoming Ceremony.

Death is also an event of great ceremonial importance. The natives universally use cremation to dispose of the dead

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On the fifth day of the six-day gathering, all of the 135 women attending gathered together in the village hall for the initiation of the young women. Lali was one of this year's 11 initiates, one of two from Risco Azul. Customarily each woman is attended by a friend of her choice; I was allowed to be present because Lali chose me as her friend.

The members of the women's councils from the six villages presided over the initiation; the other women sat in the audience and sang (see Appendix III for lyrics). The songs made repeated references to genetics and evolution, though in imagistic rather than abstract terms, fitting the general pattern of the transformation of a scientific worldview into ritual. An elder from the host village spoke about the responsibilities of adulthood that the girls were assuming.

The deputy council member from Risco Azul gave the women's oath to Lali. I stood beside her as she said, "I accept control over my own body and my own fertility. I accept the responsibility of bearing children, so that our numbers can increase. I accept the restriction of avoiding procreative acts when my village cannot support children, and while I am not ready to bear fit children. I accept the support of my kin, and I offer my own support to them and to their children." Her voice was unsteady, but clearly audible.

After all the oaths were given, the ceremony turned into a feast. Now the songs were humorous and bawdy, like charavari songs in Europe; the older women teased the young women about what they would be doing now with their young men. Many of the lyrics took dolphins as a symbol of amorousness.

– Gudrun Olafsdottir, Ceremonial Biology: Women's Rites in a Poseidonian Native Culture

Natives and Earth

The majority of natives are not hostile toward Earth, but neither do they feel any particular loyalty toward it. Earth is recognized as the origin world for humanity. On the other hand, for the natives, Poseidon is the beloved home, the place honored ancestors gave their lives to understand, the place where one's descendants will be born. For most natives, the most important connection to Earth is a recognition of the lessons of history, which teach the extent of humanity's responsibility for its adopted world.

A substantial minority of natives have become very hostile toward Earth, especially since Recontact. The basis for this hostility is broad. Some natives simply dislike Earthborn colonists as individuals. Others despise the alien culture that the newcomers bring to Poseidon. Still others resent the results of newcomer activities, which they see as exploiting and ruining Poseidon's natural wealth. Many of these hostile natives are unlikely to take action, feeling that they are helpless or fearing to resist GEO or Incorporate power. Such "silent resisters" may still work in secret if they can. Others, more embittered or more aggressive, take open action against GEO or Incorporate authority, mounting acts of passive resistance, sabotage, and terrorism.

Another group of natives have taken the opposite tack. These natives welcomed Recontact and have done all they can to embrace newcomer culture. Most of them live in the colonial cities, where they suffer second-class status and are often indentured to an Incorporate state. These natives take advantage of as much high-tech gear as they can afford. Since this is usually not much, many of them adopt lives of petty crime to try and live up to the standards of their adopted society. The native ghettos in Poseidon's cities are very unsafe places, rife with theft, prostitution, and illegal drug trades. The natives who live there are regarded as trash –not only by the newcomers, but also by other natives. The ghetto inhabitants are considered failures, traitors to the native way of life.

– there are no native graveyards, despite the occasional tall tale told by old Poseidon hands to gullible newcomers. Villages with access to the ocean (which is the vast majority of them) will usually launch a floating pyre out to sea. There is very little mourning. Instead, the villagers will feast and toast the memory of the deceased, reminiscing and trading stories about his life.

Almost all native groups observe the same annual holiday, a weeklong celebration called Planetfall. This festival takes place in the week before Founder's Day, the anniversary of the first landing of the Athena Project colonists on Poseidon. The Planetfall festival is wild and emotional, a time when everyone is encouraged to forget life's hardships and enjoy the bounty of Poseidon. Outsiders have compared it to a combination of Thanksgiving, Christmas, and Mardi Gras. Nine months after Founder's Day there is often a rush of births, called the "Baby Wave" by most natives. About one-third of all native births occur within this one two-week period each year.

Although most native rituals lack what a newcomer would recognize as a "religious" background, the natives do have a kind of quasi-religion. Native communities hold a deep respect and reverence for Poseidon as a whole. Many communal rituals involve verbal invocation of the oceans, the planetary ecology, or Poseidon itself. The natives have almost none of the trappings of an organized religion – no priests, no consistent liturgy, no belief in the supernatural – but their reverence for the natural world takes on some of the role that religion plays for many newcomers. Most natives discuss this Poseidon-oriented mysticism in scientific terms, referring back to the Gaia hypothesis developed on Earth in the 20th century.

Naturally, the oceans themselves are central to the native worldview. Most natives have a cyclic view of life, in which the tides and the recurrent storm seasons play an important part. References to water and the oceans are extremely common in native dialects. The sea and its symbol, the horizon circle, are very common images in native art.

Aside from these common rituals, all of which date back to just before the Abandonment, every native village has its own distinctive ceremonies. Common rites involve hunting, mating, the aborigines, meetings with other villages, the coming of storm season, and other events. No outsider has managed to catalogue even a small portion of these observances, not least because increasing native hostility is making field anthropology a very dangerous occupation.
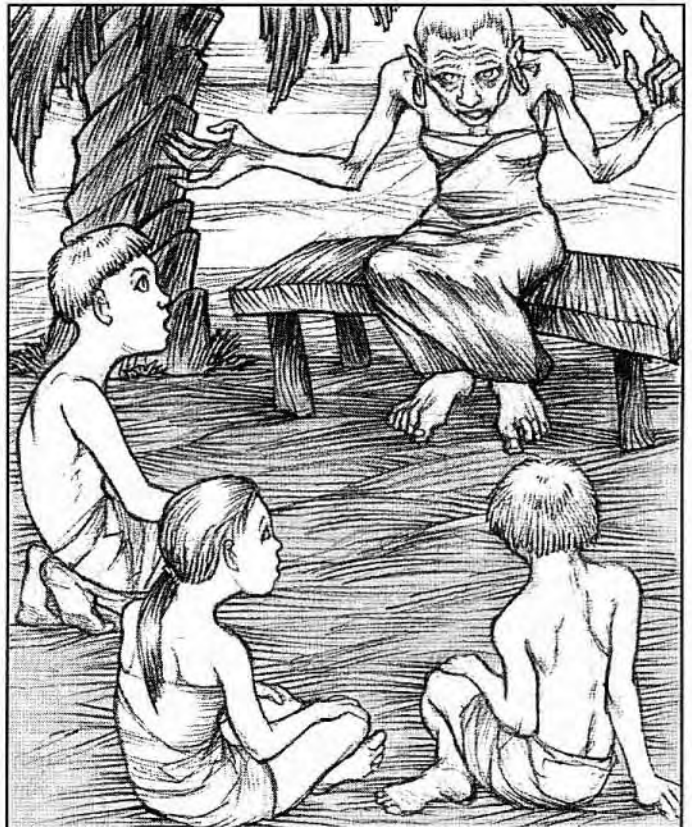
THE COLONIAL REGIME

There are days that I feel like a Roman legate in some newly-conquered province on the borders of the Empire. Behind me stands all the power and majesty of the greatest state the world has ever seen. Yet the place I presume to govern has its own history, its own dynamic that takes little account of me or anything I represent.

It's humbling to realize how much we still have to learn about this place. On the other hand, there are plenty of barbarians here. My Roman legate would have known what to do about them. I hope we don't have to follow his example.

– GEO Colonial Administrator John Bishop,
journal entry (August 8, 2198)

Poseidon's natives are badly outnumbered by the newcomers, the colonists that have arrived in the years since Recontact. Most of the newcomers have arrived since the discovery of xenosilicates, taking part in the great Long John rush. Among the newcomers are GEO soldiers and bureaucrats, who have laid a claim to be the legitimate government of the colony world. Many of the newcomers represent various Independent states back on Earth, especially the Incorporate city-states. Others represent various private institutions, each of which has its own reasons for extending a foothold onto the new world.

The GEO on Poseidon

The Global Ecology Organization (GEO) began existence as a small and under-funded agency of the United Nations. Over the course of a century and through the pressures of the Blight years, the GEO became the first true world government on Earth, overshadowing all other political entities of the homeworld. Today, the position of the GEO is ambivalent. Some, especially older citizens who remember the Blight, support the GEO as the benevolent savior of humanity. Others chafe under its rule and resent its actions. Although the organization's power is under challenge on the homeworld, it continues to dominate the course of events throughout humanity's reach.

The GEO regards itself as the successor to the old United Nations Organization (UNO). Most nations on Earth are full member-states of the GEO, represented on the General Assembly but required to obey GEO authority. A few of the most powerful pre-Blight nations have Independent status, having joined the GEO under special terms that allowed them to retain some of their sovereignty. Independent nations include the United States, France, the United Kingdom, the United Islamic Republic, India, and China. The various Incorporate city-states also hold Independent status within the GEO.

The GEO has an ambiguous and often-disputed role on Poseidon. GEO officials claim legal continuity of their governance from the United Nations and the original Athena Project, making the GEO the only legitimate government on Poseidon. Native activists, on the other hand, argue that all claims held by any Earth-based authority lapsed when the Abandonment took place in 2096. Of course, the GEO is present on the ground on Poseidon, and as a practical matter is significant in the lives of every inhabitant of the planet.

The Office of Colonial Affairs is the senior GEO organization on Poseidon, responsible for coordinating all GEO activities in the Lambda Serpentis system. John Bishop, the senior GEO administrator on Poseidon, heads this office. At the highest levels, the GEO is organized into departments, each headed by a High Commission. Each High Commission is represented by a Deputy Commissioner on Poseidon. In theory, each of the Deputy Commissioners is accountable to the Colonial Administrator. In practice, cooperation between the High Commissions is patchy, subject to the personal relationships of the Deputy Commissioners with each other and with John Bishop.

Human Resources

The High Commission for Human Resources (HCHR) was established around a core of several humanitarian agencies of the United Nations. It is responsible for mounting relief efforts in times of war or natural disaster, improving the conditions of labor in all areas under GEO authority, and promoting social justice. It also manages a variety of educational and cultural-exchange programs throughout human space. HCHR is one of the most active GEO departments on Poseidon.

Education is a top priority for the local GEO. HCHR funds organized primary and secondary schools in almost all the newcomer settlements. The Commission sets standards, oversees educational curricula, and provides specific resources such as computers and CommCore access. HCHR also sponsors as many Earth-trained teachers as possible to come to Poseidon and work in the scattered settlements.

Disaster relief is another important HCHR function, especially given the fury that the planet's natural disasters can muster. The Commission coordinates local fire and flood protection everywhere on the planet. It also maintains several Emergency Response Teams at strategic points across Poseidon. These teams are highly trained, and have provided relief services and search-and-rescue support in many highly publicized disasters.

The ERTs are very popular on Poseidon, and are one of the few GEO initiatives to claim enthusiastic native support. About 15% of all ERT personnel on Poseidon are natives, while another 10% are Earth-born cetaceans. GEO officials are quite aware of the popularity of the teams, and use them as a selling point when trying to convince native leaders of the usefulness of GEO administration.

HCHR also provides development aid to the colony's settlements. Common projects that receive logistical or funding support from the Commission include hospitals, desalinization plants, fusion plants, power grids, and harbor construction.

Natural Resources

The High Commission for Natural Resources (HCNR) is the primary agency for economic regulation within the GEO. Its mandate is to manage all economic activities that might affect the natural ecology of Earth (and of Poseidon). Since this means all economic activity, the HCNR's regulatory reach is very broad.

On Poseidon, HCNR has primary responsibility for regulating economic exploitation of the planet. In particular, HCNR enforces the environmental statutes that control resource development and industrial production.

The Commission maintains a cadre of Environmental Inspectors, who have the authority to visit any industrial site or colonial settlement and examine its activities. These inspections may take place even at Incorporate facilities, although the specifics of treaties between various Incorporate states and the GEO may limit what the inspectors can demand to see. Inspectors have sometimes been forced to bring Marshals or GEO Peacekeepers along in order to enforce their legal authority to inspect.

HCNR also maintains a set of global surveillance satellites in Poseidon orbit. These satellites have proved very useful in sniffing out possible violations of the environmental laws. They have also provided valuable scientific data on Poseidon's climate, ecology, and resource patterns.

Science and Technology

The High Commission for Science and Technology (HCST) is the successor to many United Nations scientific and technical agencies. HCST coordinates scientific research world wide, funding many research centers and helping private institutions to share results freely. The Commission also manages the World Space Agency, the most extensive institution for space exploration in existence.

HCST maintains a large contingent on Poseidon, and more scientists and engineers are arriving on the water world every year. HCST coordinates all scientific research on and about Poseidon, funding a great deal of it and providing a clearinghouse for research results. The Commission also founded the Haven Institute for Science and Technology in 2188. It has also constructed a large research station named GEO Prime in the Zion Islands (p. 119). The scientists at GEO Prime, over 25% of whom are cetaceans, are doing groundbreaking work on the aborigines, the origin of xenosilicates, and other critical issues.

Communications

HCC (the High Commission for Communications) took on the functions of U.N. agencies such as the Universal Postal Union and the International Telecommunications Union. It is responsible for promulgating communications standards, and enforcing GEO policies that encourage free communication among all humans. The HCC manages the GEO's network of communications satellites, the bulk of Earth's telecommunications web (the CommCore), and the fleet of drone couriers that allow relatively quick communication between Earth and Poseidon.

On Poseidon, HCC is responsible for developing the telecommunications infrastructure for the entire planet. There has been considerable progress in this area. A network of communications satellites is in place, and there is a local CommCore network centered on Haven. The growth of Poseidon's communications network is (miraculously) keeping pace with the population boom. Almost every newcomer has CommCore access immediately upon arrival, and HCC is making some progress with integrating even the less-hostile native settlements into the growing net.

Naturally, there are limits to HCC's success. Poseidon is a difficult environment for telecommunications, given the fierce cyclonic storms and the prevalence of thick cloud cover (with its associated electrical activity). Despite the Commission's best efforts, the Poseidon communications network remains both patchy and unreliable.

Internal Security

The High Commission for Internal Security (HCIS) is effectively the GEO intelligence service. It supports GEO interests by managing networks of spies, informants, and covert operatives. In theory, HCIS is supposed to act as a liaison with the intelligence services of various Independent governments, including with the Incorporate city-states. Naturally, these relationships are usually less than cordial.

One of the most controversial High Commissions back on Earth, the HCIS is also getting involved in the deepest intrigues on Poseidon. Not even Colonial Administrator Bishop is aware of the full extent of Internal Security activities within his jurisdiction. The current High Commissioner, Astumo Nakano, is famous for the fierceness of his "Black Crusade" against the Incorporate states on Earth. Since coming to Poseidon, he has been mounting a similar covert campaign against Incorporate activities on the water world. To be sure, the Incorporate states are always a serious concern for GEO, but Commissioner Nakano's efforts go well beyond what the rest of the Executive Council might consider prudent.

State and Internal Affairs

The High Commission for State and Internal Affairs (HCSIA) is the GEO's diplomatic corps. It is responsible for managing all disputes between member states, or between member states and the GEO. The title of the High Commission is viewed by many as a statement of GEO supremacy over all human institutions. The claim is that there *are* no true "external affairs" on Earth – all diplomacy between human institutions is simply negotiation carried on between component parts of the GEO.

In theory, the HCSIA is the senior branch of the GEO on Poseidon. The Office of Colonial Affairs, which technically oversees the entire colonial government, is a part of the HCSIA. In practice, the OCA on Poseidon operates more or less independently, and Colonial Administrator Bishop is the highest-ranking GEO official on the planet.

The OCA is charged with managing all immigration to Poseidon. In theory, prospective colonists are carefully screened by their sponsoring organizations back in the Solar System – but in practice, this procedure is very easy to avoid

because ther are som many points of departure from Earth. To compensate, the OCA manages the very strict immigration procedures on Prosperity Station (p. 124).

The OCA also supervises the training and medical procedures that are applied to all migrants, and maintains the passenger receiving facilities on board Prosperity Station. The OCA must approve any new colonial venture on Poseidon, and it theoretically imposes strict guidelines on industrial development and population growth. In practice, there is almost no official supervision of such matters on Poseidon. The Incorporate states in particular ignore all OCA restrictions on their activity, and the OCA itself is simply too strapped for manpower and resources to enforce its regulations.

HCSIA is also charged with maintaining peaceful relations between the GEO and Poseidon's many factions – including the many native tribes, the Incorporate states, and the independent colonists. Since GEO (as the putative planetary government) can hardly avoid taking sides in the conflicts that arise between these factions, HCSIA has an almost impossible task.

HCSIA maintains consulates in many of Poseidon's larger settlements, notably Haven, Second Try, and Kingston. It also operates consular offices in several of the Incorporate company towns, especially Cliffside, Santa Elena, and Al-Mamlakah. These consulates allow the Commission to remain in constant contact with many of the most powerful factions, responding quickly to new situations as they arise.

To deal with the native population, HCSIA uses its Envoy Teams. These teams are responsible for identifying and opening friendly contact with previously unknown native communities. The first task of any Envoy Team is to negotiate with the native group for GEO services and protection. They are also trained to provide some basic services themselves, especially initial medical care such as inoculations and training in first aid. Once first contact is completed, the High Commission for Human Resources usually handles further interaction with a native group.

Armed Forces

As a world government, the GEO maintains an army of considerable size. The GEO Armed Forces include three major branches: the Peacekeeping Force, the Aerospace Command, and the Naval Command. In theory, the Peacekeepers are used only as a last resort to prevent conflicts between GEO member states. In practice, the Armed Forces are used in the same manner as any other armed force – as a tool of state policy.

To support the other branches of GEO government, the Armed Forces have deployed a heavily-reinforced brigade to Poseidon. Luther Gideon, a Marine Corps Lieutenant General, commands this unit. It includes five companies of Peacekeeper Special Forces (the Blue Berets), a company of Marine Corps Heavy Cavalry, and six regiments of Peacekeeper regulars. Small units from the GEO Aerospace and Naval Commands, including VTOL, hydrofoil, and submarine craft, support the infantry formations. The total force comes to over 10,000 combat effectives.

The primary GEO military base on the planet's surface is near Kingston (pp. 120-121). Many of the Peacekeepers are scattered in company-sized garrisons around the planet. This penny-packet deployment means that the Peacekeepers can react quickly to small crises as they occur. It also means that any one garrison could possibly be overrun by a large crisis.

Justice

The High Commission for Justice (HCJ) is the law enforcement arm of the GEO. It is responsible for enforcing all GEO laws and regulations, supporting other Commissions in their own regulatory roles as needed. The HCJ appoints the GEO Magistrates, senior officials who serve both as court justices and as overseers of law enforcement operations. The Commission also manages the GEO Marshal Service, a successor to previous international police organizations such as Interpol. The Marshal Service is the GEO's federal police organization, providing Marshals to support each Magistrate in his own jurisdiction.

The GEO has assigned three Magistrates to Poseidon, each of whom commands eight Marshals along with supporting staff (including Deputy Marshals) and other resources. This cadre is woefully undermanned, and is unable to maintain the peace or enforce GEO law in many areas. All but the most isolated settlements maintain offices for the GEO Magistrates. The Magistrates usually spend their time visiting Poseidon's towns and villages on a rotating schedule. They hear civil cases that have been filed since the last visit, and also manage any necessary criminal trials. Since the Magistrates must spend most of their time on the routine of "riding the circuit," they have little time left over for the unexpected.

To extend their reach, the Magistrates use their supporting Marshals. Marshals have a great deal of independent authority to investigate and arrest, although they are always accountable to their supervising Magistrate. One or two are usually accompanying the Magistrate on his circuit. The rest are out in the district, overseeing local law enforcement operations and pursuing investigations at their own discretion. They spend most of their time working alone or with a very small staff, although given enough advance notice they can call in other Marshals or HCJ resources as needed.

Law Enforcement on Poseidon

The GEO faces several problems when trying to enforce the law on Poseidon. For one thing, GEO's resources on the colony world are very thinly stretched. The Marshal Service has too few men on hand to pursue any but the most important investigations, unless a Marshal just happens to be on hand when a lesser crime takes place. Even the Patrol Officers in large settlements must ignore a great deal of criminal activity. In smaller settlements, the only law available may be the Native Patrol or a village constabulary. Meanwhile, GEO law enforcement officials are rarely seen in the Incorporate company towns, which are covered by corporate security forces instead.

The resulting situation is similar to that in other frontier societies throughout history. With no law immediately available, most citizens are responsible for their own defense. The law gives private citizens great latitude to protect themselves and their property. Many citizens carry firearms and other weapons. Most colonial authorities recognize the right to self-defense. Of course, "self-defense" has its limits. A law-abiding citizen in his own home who shoots and kills a burglar there will be in no danger of arrest when the Patrol arrives. A colonist who seeks out and kills someone who he believes to be a danger to the community will be in much deeper trouble. Vigilantism is rare, and usually meets a strong response from the legal authorities.

Another difficulty facing the GEO is the question of what law applies on Poseidon. The General Assembly has enacted a law that applies all GEO laws and regulations to Poseidon. Combined with the GEO claim to be the legal successor of the Athena Project's administration, this would seem to make the situation clear. However, many on Poseidon do not recognize GEO authority. Many natives deny the GEO claim of continuous administration of the planet. For their part, the Incorporate states and the Independent nation-states are interested in any legal position that will limit GEO power.

Meanwhile, even if GEO law were universally agreed upon, it simply does not address a number of situations that have arisen on Poseidon. The aborigines, who are alien and yet apparently sentient, have no status under any Earth-originated code. The natives have made no legal claim to property on the planet, yet they have been occupying and using territory on Poseidon for decades. The GEO claims to govern Poseidon, yet the colonists as yet have no representation in the General Assembly on Earth, thus violating the core United Nations principle of self-determination. All of this complicates the legal (and political) situation considerably. If the issues were merely theoretical, it would have little impact on law enforcement – but as it is, the anomalous situation on Poseidon directly affects every inhabitant of the planet.

When the Marshals are away, justice is in the hands of local law enforcement agencies. The GEO Patrol is the most common of these, present in all areas under direct GEO authority. Patrol offices are much like the local police stations of 20th century Earth, although in this case all police are "federalized," subject to the authority of a GEO Magistrate. Patrol officers handle the expected activities, from simple traffic violations to homicides.

Like other branches of law enforcement, the Patrol is badly undermanned – even Haven, a city of over half a million people, has fewer than 1,000 GEO Patrol officers. Perforce, the Patrol often practices crime management rather than crime prevention. Certain districts are ignored unless the criminal activity inside them becomes a nuisance elsewhere. Patrol officers tend to concentrate on the most serious crimes, leaving many petty offenses to run rampant. As a result, many of Poseidon's major cities are rife with drug trafficking, illegal gambling, prostitution, and small-scale property crimes.

In order to bolster its own efforts, the GEO has established the Native Patrol. The goal of this organization is to provide a legitimate law enforcement presence in native communities that are not hostile to the GEO, but have resisted direct rule by both Incorporate and GEO forces. Members of the Native Patrol are trained in law enforcement procedures and methods. They are authorized to call upon GEO Patrol and Marshal services when necessary (although they tend to do so only as a last resort).

The Native Patrol has been reasonably successful in the six years since its foundation. Officers have developed their own traditions, and while they usually perform their duties well, they retain a fierce loyalty to their own communities. As a result, the Native Patrol has come to function as an established native presence within the GEO hierarchy. Some natives have come to see this as a useful opportunity to use GEO resources and affect GEO policy.

Trade and Industry

The High Commission for Trade and Industry (HCTI) works closely with the HCNR (p. 97). Both Commissions are involved in economic policy and regulation; although the HCNR is normally hostile toward industrial development, the HCTI is more supportive. The difference is in the goals of the two Commissions – whereas the first priority of the HCNR is the protection of the natural environment, HCTI is first concerned with encouraging human prosperity. Trade and Industry is responsible for developing unified industrial, financial, and trade policies for the GEO's member states. In pursuit of this goal, the Commission works closely with those member states, even with the Incorporate city-states that control much of the world's resources.

On Poseidon, the HCTI is rather unpopular, perceived by many as being "in the pocket" of the Incorporate states. Many colonists fail to realize that the Commission is responsible for curbing many of the Incorporate's worst excesses. Meanwhile, HCTI helps to set up long-term development strategies for the colony world, working with any faction or group that is willing to cooperate. It also funds many development programs, and administers the regular resupply expeditions from Earth that do much to keep the colony afloat.

The Incorporate States

Like the GEO, the Incorporate states arose out of the crisis of the Blight. Each Incorporate state began existence as a large corporation or consortium on Earth. During the Blight years, each took responsibility for maintaining order and prosperity in a specific region of Earth. In exchange, they received most of the rights of sovereign nation-states.

The Incorporate states have a mixed reputation. Many people support them, recognizing that they have provided much of the economic muscle behind the recovery from the Blight and the subsequent return of prosperity. Others resent them as ruthless, inhuman institutions, accountable to no authority but their own. The popular media (at least, those media that are not themselves under Incorporate control) usually lean toward the latter view.

In fact, the Incorporate states represent a new kind of political institution. They have the sovereign authority of modern nation-states. They use many internal political structures similar to those of ancient city-states. They are also profit-making commercial enterprises, with an interest in markets well beyond their physical territory.

As of 2199 AD, there are ten Incorporate states in existence. All of them have a presence on Poseidon, although not all of them have established private "company town" colonies on the water world. The Incorporate states are individually described in boxes throughout the remainder of this chapter.

ISLANDS

Despite Poseidon's size, very little of the surface is human-habitable. Dry land makes up only 3% of the planet's surface area, and there are no continents as such – so every piece of dry land is still profoundly affected by the sea. Most of the planet's land area falls into five distinct island chains, with a small fraction scattered across the ocean as tiny islands or shoals.

From the human standpoint, the most important region of the planet is the Pacifica Archipelago. This island chain is the largest on the planet in terms of land area (43% of the total); it includes the largest single landmass (Prime Meridian) and is the home of all but a small fraction of Poseidon's human population.

Haven Cluster

And now, a recap of our top story for this hour. Patrol officers, led by Marshal Anton Kruger, today performed a lightning raid on a condemned building in the Warehouse District. Seven members of the infamous terrorist organization Zero Nation were apprehended, and are in custody awaiting arraignment. Although there was a brief exchange of gunfire, the Magistrate's office reports that there were no Patrol or civilian casualties.

In other news . . .

– CommCore news multicast (March 13, 2198)

The Haven Cluster is the most densely packed group of large islands on Poseidon. It straddles the official Prime Meridian between 1° and 16° south latitude, extending about 5° east and west. Most of the islands in the Cluster are volcanic in origin, and a few of the islands still support active volcanoes. Within the past few million years, the region has gone through a period of violent tectonic activity, creating a variety of unusual geological formations.

The overall climate in the Haven Cluster is tropical, warm and wet enough to support dense vegetation on every landmass of significant size. Fortunately, there is a consistent wind current from the northeast, moderating extremes of heat and humidity, so the Cluster islands are quite comfortable for human inhabitants. On the other hand, the waters in and around the Cluster are unusually warm and shallow, making the region a center of cyclonic storm activity.

The Haven Cluster has always been the center of human settlement on Poseidon. The first colonies were established here in 2087, and even after the Abandonment the Cluster continued to grow. The region's population grew steadily, rising from 5,000 to 50,000 even before the Long John boom began. Once the flood of newcomers began, the relatively dense settlement in the Cluster made it the natural spot for new industrial development. In the last ten years, the Cluster's population has spiked to almost a million inhabitants – these islands now support about half of the planet's fast-growing population.

Today, the majority of the Cluster's people live in its few large modern towns. Of course, there are dozens of small native settlements, dispersed among the islands, often placed in locations that would be impractical for a large settlement. Most of these isolated settlements survive on fishing and aquaculture.

Haven

On the southern coast of Argos Island there is a superb natural harbor. It was here that the first settlement on Poseidon was established in 2087. Haven remains the oldest and largest town on Poseidon. As the colonial government takes shape, Haven is destined to serve as the planetary capital.

Most of the urban area of Haven is actually on Haven Island, a small landmass off the coast of Argos Island. The Old Town (the original settlement established by the *Cousteau* colonists) is on the southern shore of the island, nestled between the West and East Harbors. Haven Island has very steep slopes, so much of Haven city is built on a series of terraces rather like those of many Mediterranean towns on Earth.

Haven is controlled quite closely by GEO. The city is slated to become the colonial capital as soon as GEO establishes a legal mandate over Poseidon. The Colonial Administrator already has offices in the Government Center northeast of Old Town. Meanwhile, Haven retains its old municipal government, with an elected Mayor and City Council. The current Mayor, Janson Blair, is from an old Incorporate family. His ties to Biogene and his sympathies for Incorporate policies are widely known and rather controversial.

The Styx

Northwest of the Haven Cluster is a stretch of ocean which has become known as the Styx, after a legendary river of the underworld. This region is roughly triangular, with Fable Island and Snake Eyes at two corners, and the rough settlement of Nomad at the third.

The Styx has developed a reputation rather like the Bermuda Triangle of Earth. It is famous (or infamous) for aircraft crashes, instrument malfunctions, mysterious disappearances, shipwrecks, and other unexplained phenomena. Some scientists have concluded that the reputation is the result of a statistical illusion – the Styx is a high-traffic area near some of Poseidon's most densely populated islands, so an unusual number of incidents is to be expected. Others point out that the Styx is in the heart of the Storm Belt, and so unusual meteorological or electromagnetic effects are common there. No doubt these explanations have some degree of truth, but long-time Poseidon hands still claim that something unnatural must be going on there.

On the surface, Haven appears to be prospering. It is the center of Poseidon's booming service industry. Education, finance, medicine, telecommunications, transportation, even entertainment services are all growing rapidly to meet the needs of the heavy-industrial settlements elsewhere on Poseidon. The city is particularly important due to its excellent deep-water harbor and access to the planet's main spaceport.

The booming economy leads to its own difficulties, however. Explosive economic growth constantly threatens to trigger hyperinflation, which would wreck the planet's financial structure and leave most of its citizens in poverty. Although Haven's banks have moved to keep the money supply tight, raising short-term interest rates well above 20%, there is fierce inflationary pressure due to the constant flood of immigrants. Thousands of optimistic newcomers arrive in Haven every month, bringing credit from Earth to invest in local equipment and goods. As the newcomers buy, prices rise in response. In turn, once the newcomers are in business, they are often forced to charge exorbitant prices simply to keep ahead of the debt load they incur upon arrival. So far the situation has not (quite) spun out of control, but both GEO and Incorporate officials are watching local economic indicators closely.

HAVEN CLUSTER

KEY
- COLONIAL SETTLEMENT
- NATIVE SETTLEMENT
- INCORPORATE HOLDING
- GEO HOLDING

500 KILOMETERS

◁ NORTH
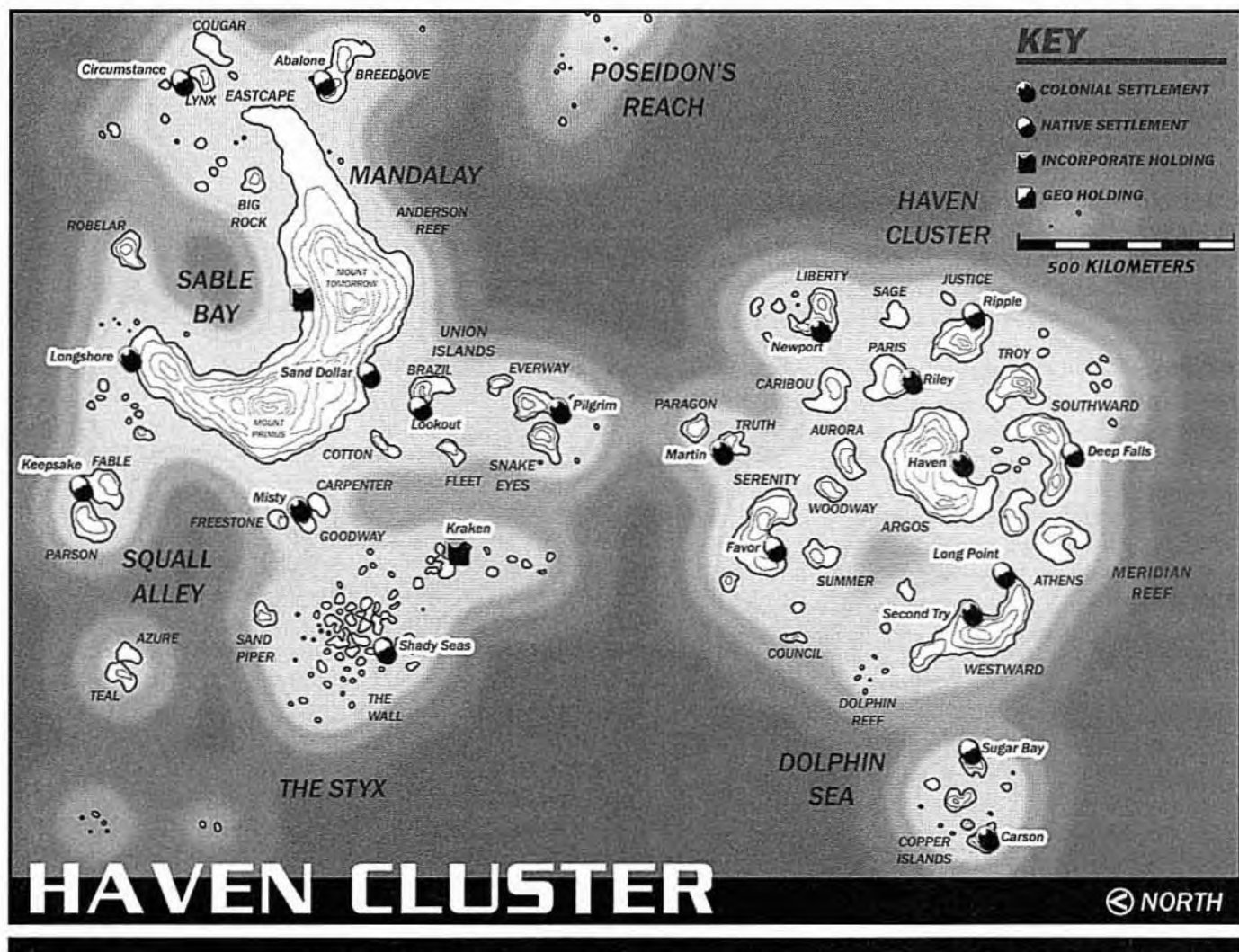
Haven Districts

As the largest and oldest of Poseidon's towns, Haven has developed a number of distinct neighborhoods, each with its own flavor.

Old Town

Old Town began existence as a carefully planned array of prefabricated modular structures, originally stripped from the Cousteau at the time of the first landings. Over the past century, these modular structures have been extensively modified, accreting additions of bioplastic, wood, and stone. The result is a riot of different architectural styles, laced with narrow, twisting streets and many blind alleys. Zoning is almost completely nonexistent, so commercial and residential buildings are randomly interspersed.

Old Town is home to Colonial Headquarters, the first modular structure stripped from the *Cousteau* that was set up as the Athena Project's control center. The Headquarters is the traditional residence of the Mayor of Haven.

South of Old Town, just offshore, is the Church of Whalesong Theogony, the only formal meeting place for Poseidon's most popular cetacean religion. The Church is a vast structure of engineered coral, resembling a giant mushroom with the water covering the bottom third of the hemispherical "cap." The inner chamber has no floor and is accessible from underwater. The sanctuary exists as a place of worship and as a meeting place for the Church's leaders.

The Floats

Near Old Town, in the West Harbor, is the poor district known as the Floats. West Harbor has long been home to a number of citizens living on moored boats. Since Recontact, many of Haven's poor have been pushed out to the harbor, using sailboats, houseboats, ramshackle rafts, and barges to serve as inexpensive homes. The resulting "boat town" has a large native population, and poverty and crime are rampant. One peculiarity of the place is the blurred distinction between public walkways and private residences – it's very easy for outsiders to get into trouble by wandering carelessly into someone's home and provoking a confrontation.

On the shore adjacent to the Floats is the new district called Brighton, a large GEO funded housing project that has become another of Haven's poorest neighborhoods. Brighton is full of impoverished natives, hybrids, and newcomers who have failed to succeed in Poseidon's boom economy.

The Heights

On the slopes behind the Old Town are Haven's more modern districts, almost entirely built since Recontact. The most prestigious district is the Heights, directly above Old Town to the north. The Heights are home to many high-level GEO officials, Incorporate executives, and other wealthy citizens. Unfortunately, the Heights are surrounded by poorer districts such as Brighton, the Warehouse District, and the Floats. Crime often "leaks" across the borders of the district, despite GEO and MacLeod Enforcement patrols.

Central Business District

Northeast of Old Town is a region that was once home to the colony's administrative offices, laboratories, medical clinics, and other technical centers. In recent years, the Central Business District has been almost completely renovated, and is now full of glass-and-steel spires housing Incorporate offices. Many residents consider the District to be an eyesore, a terrible distraction from the charm of the older parts of Haven. Patrol presence here is intense and watchful.

East Harbor

In the East Harbor, directly adjacent to the Old Town, is the district known as the Wharf. As the name suggests, at one time this was a docking place for fishing boats and other watercraft. Today, only a few luxury craft tie up at its expensive marinas. The Wharf is a high-rent district built out over the harbor, filled with open-air markets, restaurants, and small shops. It is a very popular destination for tourists from around Poseidon.

One point of interest in the Wharf district is Haven Coliseum, a modern athletic complex built on floats out over East Harbor. The Coliseum seats 35,000 people, and can host either land or water sports events (the floor of the arena is retractable). An extensive entertainment complex of hotels, restaurants, and virtual arcades make it a popular attraction even between events.

North and east of the Wharf is the Waterfront District, also built out into the water and currently spanning the whole width of Haven Channel. The Waterfront is an entertainment strip, somewhat less high-class than the Wharf. Here a visitor can find bars, nightclubs, virtual arcades, shopping malls, and a few brothels. The West Shore (on Haven Island) is well patrolled, while the East Shore is more rough and dangerous.

East of the harbor is the spit of land known as Shuttle Point, a heavy commercial zone that is critical to planet-wide transport. Haven Shipyards are headquartered here, as is Nathaniel Lesear Memorial Spaceport (the largest and busiest spaceport on Poseidon). Shuttles actually land and take off in the "Dropzone" about 10 kilometers south of the city; they are towed to and from the spaceport by a fleet of heavy tugs.

At present, Haven is home to just over 500,000 residents, about one-quarter of the population of Poseidon. The vast majority of the city's people are newcomers – although as many as 15,000 natives still live in Haven, most of the native population has long since fled before the flood of immigration. Haven's population exhibits extreme cultural and ethnic diversity – it is possibly the most cosmopolitan city in human history.

MacLeod Enforcement

MacLeod Enforcement began as a small security consultancy based in Scotland. It provided a variety of security services, up to and including military consultation for a number of national governments in the developing world.

The Blight handed MacLeod Enforcement a golden opportunity as demand for its services skyrocketed in the wake of the disaster. In particular, the embryonic Incorporate states often found themselves struggling to handle their new responsibilities as effective national governments. More than once, MacLeod found itself in the position of being contracted to act as Defense Department for one or another of its Incorporate peers. Before long, MacLeod was able to establish its own city-state, securing the city of Mombasa after the Kenyan government collapsed. The situation in Africa gave MacLeod a virtually unlimited supply of personnel who could be quickly trained in effective security procedures. Meanwhile, its new Incorporate status freed MacLeod from many of the legal restraints it had been forced to operate under. Now it could openly offer military-grade weapons systems and hire out legitimate mercenary forces.

Today, MacLeod Enforcement is one of the most powerful military forces on Earth. Although its available forces are relatively small, their training and equipment are second to none. MacLeod's financial resources are immense and its political connections formidable. On the other hand, MacLeod has a very poor reputation in the popular media. The corporation has often been accused of arming or training terrorist groups, performing assassinations, stockpiling weapons of mass destruction, and other heinous crimes. The GEO's Justice Commission is known to be investigating MacLeod in the hopes of finding charges that can be made to stick – thus far without success.

On Poseidon, MacLeod Enforcement has established no "company town" of its own, but it has interests and activities across the planet. It provides private security personnel, equipment, and civilian-grade weapons to the various settlements on Poseidon. It is also rumored to be providing military training to a number of native groups. This is not technically illegal, unless the natives in question have been designated as hostile, but the Justice Commission suspects that MacLeod has been deliberately careless about whom it accepts into its training courses. Of course, the corporation also provides equipment and training to various Incorporate states on Poseidon, often the very ones who are most often found in the field against hostile natives.

It's often said that conflict is bad for trade – unless you're an arms dealer. Certainly MacLeod Enforcement has done nothing to ease tensions on Poseidon, and may be working behind the scenes to stir up further trouble.

Second Try

Second Try is located on the eastern coast of Westward Island, a large landmass in the Haven Cluster. Most of the settlement is located in Barker's Gorge, a canyon that runs several kilometers back from the coastline and provides a small sheltered harbor.

The first settlement at the site of Second Try was Homestead, established in 2091 as the first of Haven's satellite colonies. The volunteer settlers declined to use modular habitats from the *Cousteau*, deciding instead to build their town from scratch. This proved a costly decision in 2092, when a powerful cyclonic storm hammered the embryonic settlement flat, killing over one-third of the colonists. Led by Hiram Barker, the survivors moved further up into the Gorge and established a new town, which they named Second Try. This settlement survived and prospered, making good use of the shelter provided by natural caverns in the depths of the Gorge.

Second Try has about 30,000 inhabitants, most of them natives. Indeed, many natives who once lived in Haven and other towns have relocated to Second Try, pushed by the immigrant flood. While newcomers are present in the town, they have not overwhelmed the native society. No significant deposits of Long John have been discovered in the area, so the town has avoided the worst aspects of the boom economy. Meanwhile, Second Try society has always been based on cooperation and mutual tolerance. Original settlers, natives from other towns, and even newcomers have all managed to get along reasonably well here.

Second Try lacks a strong government structure, continuing in the relaxed communal pattern of decades past. The GEO has local offices, but there is no appointed Marshal, and there is no permanent representation from the Office of Colonial Affairs. There is an elected City Council, which rarely meets more often than one week in four. There is also a Town Manager's office, although it currently stands vacant.

Second Try's economy is largely agrarian, dependent on fishing, farming, and aquaculture. Several Incorporate states maintain offices in the town. GenDiver maintains a local pharmaceutical research lab, and Hanover Industries is exploring the possibility of building a small jumpcraft factory. One unique element in Second Try's economy is its volunteer labor sector. Much of the town is built on a series of bridges and platforms that span the width of the rear of Barker's Gorge. These platforms are superbly engineered, and could provide living space for several times the town's current population – but they require considerable maintenance. This work is primarily done by participants in several volunteer programs, ensuring that the town is well kept even in poor areas.

Lebensraum

Lebensraum is located about 940 miles from Haven, on the Sable Bay coast of Mandalay Island. The settlement stretches over steep, rocky beaches that form a series of natural seawalls. Mandalay Island itself is dominated by two inactive volcanoes, which loom over Lebensraum to the south and west.

Lebensraum is the private domain of the Incorporate state Hanover Industries. In order to assure its own survival, it has established this company town on Poseidon to serve as its eventual home base. In only six years, Lebensraum has become a leading industrial center, supporting a wide variety of manufactures.

The population of Lebensraum is over 26,000 at present, and is expected to reach 50,000 before Hanover reverts to Germany (see box, this page). The vast majority of the inhabitants are newcomers, transplanted to Poseidon from the Hanover city-state. Hanover's Security Service controls access to the town very tightly; non-citizens will need a work visa or visitor's pass to avoid deportation. Security Service patrols are common within the town's borders.

Lebensraum is governed by executives of Hanover Industries' Colonial division, notably its President (Werner Keinz). The result is an almost feudal state, with "Herr Keinz" serving as absolute overlord. Overall government is typical for an Incorporate enclave – all citizens are employees, and are treated as such. Keinz also acts as the town's "foreign minister," meeting frequently with representatives from the GEO and other settlements. Lebensraum's industrial might is beginning to make itself felt across Poseidon, and brings customers and potential allies from far and wide. Keinz deliberately encourages such relationships, hoping to secure Lebensraum's future through canny bargaining.

Hanover Industries

Hanover Industries began as a consortium of German manufacturing firms. Over the 2080s, most of the consortium's component firms set up home offices and factories in the city of Hanover, in northern Germany. When the Blight struck, the consortium did much to maintain order and a kind of prosperity in the Hanover region. As a result, the ordinary citizens of the region were supportive when Hanover Industries signed an agreement with the German government for sovereign control over the city.

Since the 2090s, the relationship between Hanover Industries and the German government has been a tense one. For much of the 22nd century, Hanover Industries has had a constant struggle to maintain its independence. In 2181 it seemed that this struggle had been lost – a new treaty was signed which provided for the return of Hanover to the German government in 20 years.

Since the Long John rush began, Hanover Industries has embarked on a radical new strategy for its long-term survival. With the population of Poseidon skyrocketing, there is a large and growing market on the colony world for the kind of heavy industry and other services that Hanover Industries can provide. The Incorporate state has begun preparations for moving its home base off Earth and to Poseidon before the 2201 deadline.

Hanover Industries is opening large factory complexes at its Poseidon colony, Lebensraum. Meanwhile, the company is moving aggressively into the service and commercial sectors all over the planet. Hanover Colonial Bank is one of the largest financial institutions on the planet. Hanover's chain of supermarkets and discount stores is appearing in many of the major settlements. So far, the Incorporate state's strategy seems to be paying off – it is becoming an integral part of colonial society, and its political reputation is better on Poseidon than on Earth.
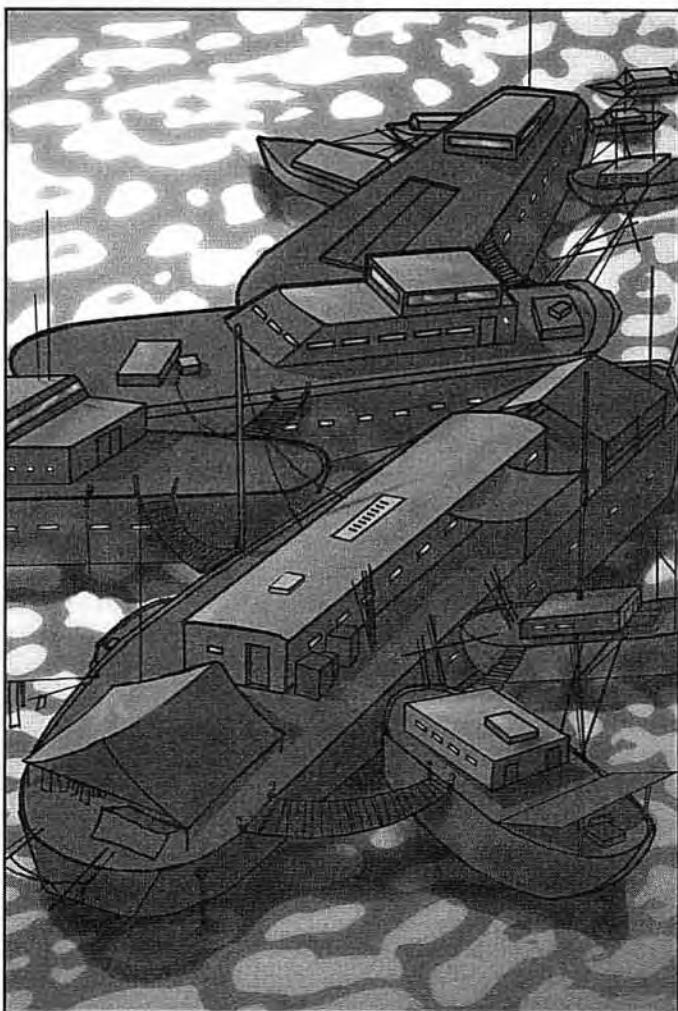
Nomad

Nomad lies within a small cluster of islands located at one corner of the Styx (p. 101), north and west of Haven. The islands in the region are dense with tropical forest, while the surrounding waters are shallow and warm. The result is one of the most ecologically diverse areas of the planet. Within this setting of rare natural beauty, Nomad is a piece of human debris.

Natives established Nomad soon after the Abandonment. It began as a collection of rafts, barges, and stilted huts that actually migrated around the islands to follow the richest shoals of fish. After Recontact, Nomad quickly became a boomtown as the flood of newcomers began to exploit the rich Long John fields under the surrounding sea. Unfortunately, although Nomad provided a convenient early base it could not compete with some of the more permanent settlements that sprang up in the region. As quickly as the local economy had boomed, it collapsed, leaving Nomad desperately poor but far too large to resume its nomadic existence.

In recent years, Nomad has found a new role for itself as a center for smuggling and piracy. The population of the settlement varies with the season, but it usually is between 7,500 and 9,500. The largest segment of the population is native, including those inhabitants who continue to follow the seasonal migrations of fish. The rest of the population includes about 2,000 more or less established citizens, about 1,500 squatters and drifters, and a few hundred transients (smugglers, traders, pirates and underground operatives).

Nomad has no formal government. The GEO maintains no local presence, and no one else takes responsibility for the settlement or its infrastructure. The town's wealthiest and most powerful citizens usually take up residence on the several small islets which have been enveloped by Nomad's sprawl. These power brokers tend to fortify their dry-land compounds, and then send out agents to struggle for dominance in the floating maze of walkways and ramshackle homes. Such leaders are more like street gang bosses than administrators, but they provide all the government Nomad has.

Nomad survives on scrounging. There is no infrastructure to speak of – most of the population survives without electric power or modern communications. There is not even a network of clean fresh water – cisterns line the roofs, and are very carefully guarded by those who own them. The native population provides fish and other aquaculture products. Meanwhile, the various illegal enterprises that go on provide a steady trickle of high-tech and industrial goods. A visitor with enough money can probably acquire anything that can be had on Poseidon. A visitor without money will have to scratch madly simply to survive.

Circumstance

Circumstance is located just off the southern edge of the Haven Cluster, in the midst of a patch of Poseidon mangrove (pp. 79-80) east of Southward Island. The native settlement is not associated with any island – instead, the Circumstance settlers live within the mangrove canopy itself. It is typical of a number of similar native villages that are scattered across Poseidon, unknown even to the rest of native society.

Circumstance was founded in 2116 by a fleet of native settlers. The fleet had set out from Haven to establish a colony elsewhere, but bad luck and a tropical storm drove the settlers into a dense mangrove forest. Discovering that the mangrove provided a habitable environment, the settlers decided to stay rather than go to the effort of repairing their boats and striking out across open ocean once more. Eventually the settlers set up camp in the heart of the mangrove, protected by the forest from storms and predators alike.

Since the initial foundation, few outsiders have ever come in contact with the Circumstance settlement. A wilderness guide from Haven encountered Circumstance in 2197, the first outsider to do so in over 80 years. He reported the existence of a "treehouse community" of a few dozen natives, utterly at ease with their local environment, living at a Stone Age level of sophistication.

Today, Circumstance remains much as it has been for decades. About 70 natives live in the village, occupying a freeform scatter of treehouses in the mangrove canopy. The houses are simple frameworks of mangrove wood and vines, nestled in the mangrove branches or surrounding individual tree trunks. A few villagers live on simple open platforms, with no walls and no roof except the canopy or the sky. The settlement lives by fishing and harvesting useful resources from the mangrove. One of the islets within the mangrove forest bears useful flint; the Circumstance villagers have become quite adept at the ancient art of flint knapping.

Circumstance has no government as such. Elder members of the community are respected, and they bear most of the responsibility for educating children, but decisions are usually made by community consensus. The GEO has become aware of the settlement, and colonial representatives have come to visit on a few occasions, but no continuing contact has been initiated.

The Wall

In the heart of the Styx, the Wall stands as a geophysical anomaly. It consists of thousands of weathered rock spires and cliffs, each one too small to be considered an island, but forming a significant land mass as a whole. The rock formations are densely packed, forming a maze-like network of channels. Many of them have been partially hollowed out by weathering forces, forming caves at varying altitudes. Surface travel within the maze is very hazardous, as powerful tidal effects play havoc with navigation. The tumbledown rocks themselves are almost bare of life, although the surrounding waters are unusually rich.

Despite the dangers of the region, several groups have established small footholds within the Wall. There is much to draw human attention to the canyonland: aborigine sightings are very common in the region, deposits of Long John have been found, and the terrain itself favors those who need a convenient place to hide from outside attention.

Known settlements in the Wall region are highly varied, although they tend to be quite small.

Shady Seas is a small native village, established inside what was once the superstructure of a now-defunct undersea habitat. The natives of Shady Seas pursue a simple lifestyle of fishing and foraging. They are in contact with the colonial administration at Haven, and are adept at defending their village from interference by the various criminal elements that also use the Wall.

Kraken is a GenDiver corporate facility, constructed in 2191 as a base for exploitation of the area's Long John deposits. Unfortunately, the bulk of the deposits have been depleted, and GenDiver has withdrawn most of its attention to more profitable ventures elsewhere on Poseidon. Kraken is an increasingly run-down settlement, most of its 300 inhabitants having turned to independent prospecting or other improvisational lifestyles. The community survives primarily because it is well placed to serve as a fuel or trading stop between the Haven Cluster and New Hawaii (p. 106).

Thor Station is the primary GEO facility within the Wall, established in 2198 as a scientific research station. Scientists stationed there study a variety of fields, including marine biology, geology, meteorology, and physics. The station constantly suffers from a variety of technical problems, including communications failures and sporadic power outages. These phenomena are themselves a subject for study, as the scientists examine the distinctive electromagnetic properties of the Styx. The station employs about 200 people, including a dozen GEO Peacekeepers (stationed to protect against piracy).

Anasi Systems

One of the major biotech corporations of Earth, Anasi Systems first attained prominence through the development of a countervirus designed to attack the AIDS pathogen. Through the 21st century, Anasi built on this early success to become the world's leader in therapeutic genetic engineering.

During the Blight years, Anasi Systems survived the French collapse, and established a sovereign city-state in Beirut, Lebanon. Its early days as an Incorporate state were ridden with controversy, after it pre-empted an imminent attack from the United Islamic Republic by detonating a nuclear weapon over Damascus. The move roused worldwide condemnation, but some canny maneuvering on the part of the corporation's leadership forestalled any response from the GEO.

Anasi Systems has no specific corporate presence on Poseidon, and in particular has not set up any "company town" there. As a biotech firm, it uses a great deal of Long John, but it contracts for deliveries of xenosilicates with the other Incorporate states rather than open mining operations of its own. This may be about to change, however, as Anasi Systems has recently expressed interest in buying out several Earth-based firms with expertise in deep-sea mining.

Another new venture for Anasi Systems began with the purchase of the island of Cyprus from the GEO in 2188. Cyprus had been almost completely depopulated during the Blight. Anasi's intervention was welcomed after it promised to revitalize the deserted island. Since then, Anasi has almost completed construction of a massive arcology named Xanadu, intended as a permanent retirement community for millions of the world's wealthiest citizens. Xanadu offers superb living and recreational facilities, along with the most advanced medical clinics, regular longevity therapy, transhuman upgrade "subscriptions," and secure hibernation facilities for those occasions on which a resident might want to sleep through a few decades.

The rich clientele eagerly awaited the construction of Xanadu, and they have already reserved the island to capacity. Anasi Systems is considering building a similar arcology on Poseidon, hoping to attract more ultra-rich customers who want to get away from Earth entirely. The Incorporate state is negotiating with Atlas Materials and Hydrospan for construction of the new arcology. Meanwhile, both the GEO and several native groups are mounting increasing resistance to the plan.

New Hawaii

The New Hawaii cluster is a loose group of four large islands, along with a scattering of smaller islands and atolls, north of the equator and straddling the prime meridian. These islands are volcanic in origin. There are a number of active volcanoes in the island cluster, along with "dormant" ones that have not been observed to erupt since the human arrival on Poseidon. A few of the region's volcanic peaks have been catalogued as "intermittent" volcanoes, their eruptions rare but unusually violent when they do occur.

New Hawaii is an ecological paradise. The climate is warm and provides plenty of rainfall year round. The soil of the islands is rich with volcanic deposits. All of the largest islands in the cluster are replete with jungles and rainforests, which contain a tremendous variety of animal and plant species. The seas around New Hawaii are shallow and warm, providing ideal conditions for kelp forests, impressive coral reefs, and vast shoals of fish.

Humanity discovered the New Hawaii chain during the initial planetary survey, remarking on the resemblance to Earth's Hawaii. The first colonization of the area did not occur until 2091, when a group of settlers founded the town of Atlantis on the southern shore of Maui island. The Atlantis settlers were unusually individualistic even for the time, and they hoped that by establishing their colony so far from Haven that they would be free to develop in isolation for a long time.

For a while, the colony thrived, even adapting to the Abandonment as gracefully as any settlement on Poseidon. Then, in 2124, Mount Odysseus erupted, covering the south face of Maui with hot mud, ash, and lava. The Atlantis settlement was destroyed, and most of its people killed. Suddenly the isolation of New Hawaii was a drawback – although the colonists of the Haven Cluster were aware of the disaster, there was little that could be done about it.

The New Hawaii settlement survived the eruption of Mount Odysseus. Early signs of the eruption had prompted the colony's leaders to establish secondary settlements, dispersing some settlers and some critical records. The survivors continued to build, even establishing a new settlement on the site of Atlantis as a refusal to admit defeat.

Today, New Hawaii is once again the home of a thriving native population. The New Hawaiians are still isolationists, suspicious even of other natives. Recontact was particularly difficult in the area, and to this day the GEO classifies most of the native groups as "hostile." Unfortunately, the presence of extensive Long John deposits in the island group has brought the same flood of newcomer settlement as in the Haven Cluster. Relations between the natives, the Incorporate states, and the GEO are very stormy in New Hawaii, and an outbreak of violence seems likely in the near future.

KAUAI
Coronado
Research Station
FAFNIR

SOLO

GULF OF
HAWAII

Mitchell's
Start

Santiago
Base

Red Sand

LUNA

Callisto
Station

Delta

Site D

Neuwald

OAHU

FASOLT

Site B

KILLEA

THE CAYS

Simushir

Site C

Azure

Riptide

Avalon

INA

Bounty

Rio Bravo

KAUAI
REEF

PENELOPE
REEF

Leeward

Site E

Gale

Castillo
Base

Hope

GULF OF KAUAI

ILOPANGO

Cliffside

Saint
Christopher

PENELOPE

ODYSSEUS

Kate's
Lagoon

TIKI

BIANCO

WASHOUT

Taverner
Point

Atlantis

VANGUARD

MAUI

ATLANTIS
REEF

KEY

COLONIAL SETTLEMENT

NATIVE SETTLEMENT

INCORPORATE HOLDING

GEO HOLDING

Oceanus Station

BALD SPOT

Augusta

NORTH

Biogene

Biogene holds a distinctive place in Incorporate history. It was the primary rival to Fischer Foods (p. 8) in the days just before the Blight, and probably benefited more than any other major corporation from the Blight itself. Biogene was involved in many of the projects undertaken during the Blight years to reverse the ecological disaster. Further, as Fischer Foods was dismantled, Biogene managed to pick up much of its old rival's assets. The political influence gained from these moves allowed Biogene to make the first move toward independence as a sovereign corporate state. Biogene's demesne in the company city of El Dorado, in Columbia, was the "test case" that established a precedent for all the Incorporate states that followed.

Biogene is owned and managed by the Ballard family. Desmond Ballard was the CEO of the corporation when the Blight struck, and it was his cunning maneuvers that brought the corporation to its current prominence. Several dozen of his descendants are currently in management positions in the company. All of them are primary beneficiaries of cutting-edge genetic technology – engineered transhumans (p. 18) receiving the best available anti-aging therapy. Herschel Ballard, the current CEO and family patriarch, is probably the wealthiest human being alive. The conspicuous ostentation of the Ballard family is legendary, matched only by the family's extensive philanthropy.

At present, Biogene is the leader in most fields of genetic technology. Its command of the biotech industry has been parleyed into a position of unique political and economic influence. Its financial empire makes it second only to the GEO in overall influence on Earth. Even the resurgent nation-states such as China and the United States treat Biogene with great respect, recognizing the corporation's critical role in their national economies.

Shimushir

Shimushir is located on the island of Ina, fourth largest of the great islands of New Hawaii. The settlement is built in the midst of a wide tidal plain, which is invariably hot, wet, and marshy. The site is bleak and rather unpleasant, rich with the pungent odors of the marsh flats.

Shimushir was founded in 2192, when the Nippon Industrial State won a colonial charter from the GEO. Since the Incorporate state was a long-standing rival of the GEO, the approval process had dragged on for years, making Nippon Industrial one of the last corporate states to establish its own colony on Poseidon. Construction was unusually fast even for Poseidon's boom era. The result was a farrago of technical glitches and shoddy construction.

Shimushir's population is almost entirely composed of newcomers. The Nippon Industrial Arcology sits on a rocky spur in the heart of the city, and is home to the Incorporate state's oath-bound employees and officers. These 6,000 people live in relative comfort and luxury; unlike most of the settlement, the arcology is kept in good repair. Meanwhile, several "residential zones" are scattered on the tidal flats below the arcology. These are home to 20,000 or so laborers who have signed indenture contracts with the Incorporate state. These indentured laborers live in terribly cramped conditions, their infrastructure constantly in a state of breakdown. Many of them have only a "coffin tube" to call home: a 7-foot by 3.5-foot cylinder stacked with hundreds of others just like it.

Shimushir is wholly governed by the Nippon Industrial State administration, and the Incorporate state has created a social powder keg for itself. Most of the indentured laborers who built Shimushir and run its industries were enticed into their contracts with promises of wealth and comfort. The prison-like conditions in which most of them must live are intolerable, but the Incorporate state is stubborn about holding the laborers to the letter of their indentures, and has
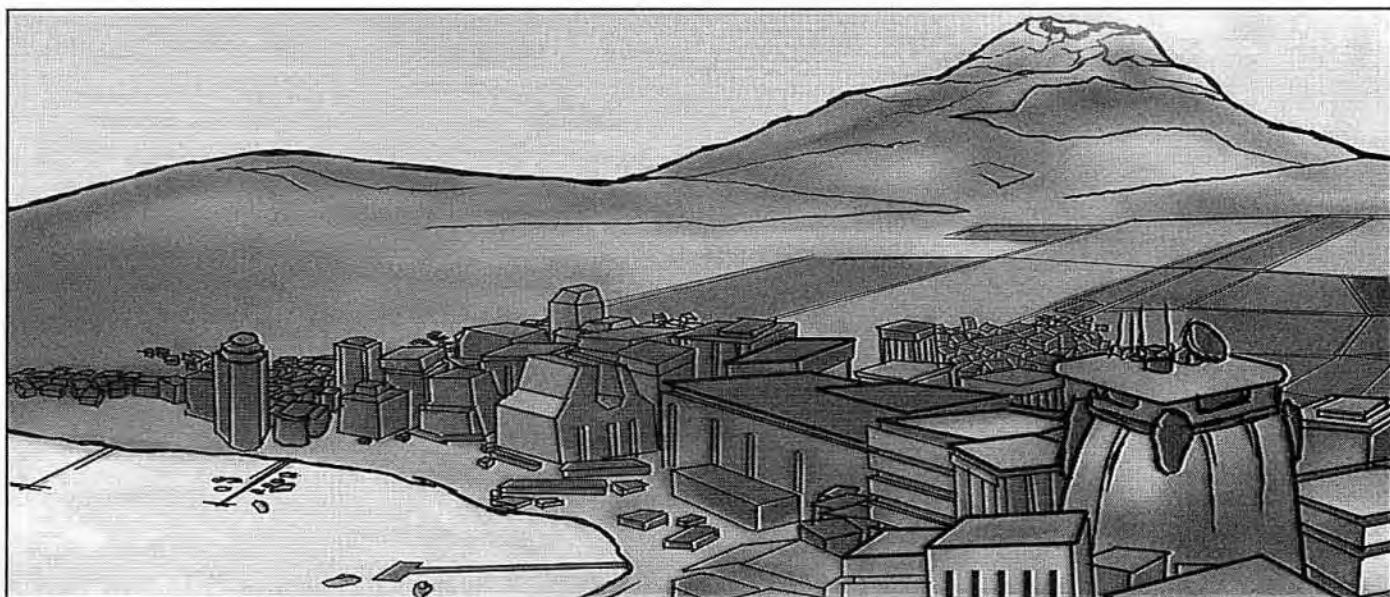
Nippon Industrial State

The Japanese zaibatsu had a long-standing tendency toward "vertical integration," controlling a variety of interlocking industries so as to give a single corporation a great deal of control over the Japanese economy. When the Blight struck, several zaibatsu built facilities in the almost-depopulated Kurile Islands, which had long been disputed between Japan and Russia. In 2102, these large corporations merged to form the Nippon Industrial State, winning Incorporate status and full claim to the Kuriles. Large aid packages won the approval of both the Japanese and Russian governments, after which GEO acquiescence was easy to obtain.

In many ways, the NIS is a throwback to a much earlier era in Japanese history. Its directors have revived "state Shinto," xenophobia toward non-Japanese, and a tendency toward militarism. Indeed, NIS is one of the few Incorporate states to have engaged in open warfare. In 2109 it attacked the small Russian garrisons in Kamchatka, annexing the southern half of the peninsula after a brief campaign. NIS propaganda called this move an attempt to relieve the Blight-induced suffering of the region's people, but outsiders soon noted the construction of huge forced-labor camps near Petropavlovsk.

The NIS produces a wide variety of industrial equipment and consumer goods, selling to markets everywhere on Earth. It is very aggressive in bending national and GEO law in its quest for political power and market domination. The Incorporate state has so far gotten away with its excesses. It has cannily allied with the GEO against independent China, and it is also tolerated because it has done much to preserve the economic and social stability of the Pacific Rim. Still, as the world recovers from the Blight the NIS may no longer be able to count on GEO tolerance. The establishment of Shimushir may be part of a corporate strategy to diversify its interests, making a more dispersed target should the GEO decide to crack down.

repeatedly deferred investment in quality of life. The indentured population is rife with dissent and subtle sabotage – which has prompted Nippon Industrial to invest in tighter security measures, thus further enraging the workforce. As productivity drops, the workforce becomes restive, and the local GEO Marshal is threatening an investigation, the situation at Shimushir is growing increasingly tense.

Shimushir does have a great deal of economic potential. The city is well-positioned to exploit the rich Long John fields of New Hawaii, and already produces a significant amount of processed xenosilicates each year. Shimushir also produces high-quality electronics, construction supplies, and consumer goods, all of which have found markets elsewhere on Poseidon. Finally, the city has a superb harbor, making it a significant transfer point for surface shipping and orbital shuttles. If the Nippon Industrial State can manage its personnel problems, its profits over the coming years may well justify the corporation's haphazard strategy.

Atlantis

The "new" Atlantis settlement is located atop the original town, on the south shore of Maui Island. Atlantis sits on Easter Bay, an excellent natural harbor. The city is built on a flat plain of volcanic origin – the pyroclastic and magma flows that destroyed the original town.

The current Atlantis settlement was founded only a few years after the volcanic eruption that had destroyed its predecessor. For some time, there was a prosperous agricultural village on the site, reaping rich harvests from the volcanic soil and the vast shoals of fish in Easter Bay. Recontact brought the usual flood of newcomers, turning the old native village into a boomtown. Atlantis in the boom era was a supply point and entertainment center for prospectors, specializing in gambling, alcohol, and women. Prospectors who failed to find their own Long John strike stayed on in other roles, often entering the illicit business of harvesting and processing the narcotic pharium plant.

The original Long John boom was soon overtaken by the arrival of Incorporate interests. After Biogene and the Nippon

Industrial State arrived in New Hawaii, the small-time prospectors of Atlantis were quickly pushed out of the mining business. The population of Atlantis dropped rapidly, and the town soon became a desperate and rather lawless place. At present, Atlantis is still struggling along, full of stubbornly independent colonists who are determined to scratch out a living any way they can.

Atlantis has a population averaging about 8,500 (with plenty of transient and seasonal inhabitants to make the count fuzzy). About 500 of these are natives, descendants of the second Atlantis settlement. The rest are newcomers, most of whom have no connection to GEO or any Incorporate state. GenDiver maintains a small facility in the town, and there is a new GEO Patrol detachment – otherwise, the inhabitants of Atlantis are out for their own interests and no one else's.

The town brings in most of its legal income as a resupply point for shipping. More recently, the natural beauty of the New Hawaii chain has been stimulating a tourist industry. Atlantis is popular among tourists who like a sense of exotic danger in their excursions; bush pilots and frontier outfitters have been enjoying a booming business in recent years. Atlantis is also the center of a thriving fish-packing industry. Meanwhile, there is extensive trade in the illicit drug pharium, reaching customers as far away as Haven despite GEO disapproval.

Atlantis is informally ruled by a coalition of its most successful business leaders. Entrepreneurs, both legal and shady, are always maneuvering to win some measure of influence over the town. The current mayor of Atlantis is Leo Nantz, who made a respectable fortune (by local standards) through a legitimate salvage operation and an illegal pharium distribution network. Nantz has grandiose dreams about yet another renaissance for Atlantis. He hopes to build a spaceport and offer an alternative to Haven's shipping facilities. Meanwhile, the new GEO Marshal (Rachel Lightfoot) is stirring things up. She is fiercely intolerant of the kind of easygoing corruption that has always characterized Atlantean business. Her crackdown on the local pharium trade has angered many of the town's leading citizens.

Coronado Station

Coronado Station is located on the north shore of Kauai. It is nestled in a shallow cove that is walled with high cliffs, concealing it from casual visitors as well as offering good protection against cyclonic storms. Supply ships and jumpcraft arrive from Cliffside on a regular basis. The station also acts as a transit point for transports traveling through the region.

The station was completed quite recently, becoming operational only in 2197. It is a Biogene facility, devoted to the study of Poseidon's native ecology. The nearby region is unusually rich in animal and plant species even for the New Hawaii chain, so the Biogene scientists expect to spend years studying its tremendous diversity. A number of occasionally-manned science stations and observation posts have been set up in the Kauai interior, accessible from Coronado by a dirt road.

The station is manned by just over 50 scientists and technicians, two of them uplifted dolphins. All of the inhabitants are Biogene citizens. The station staff uses Spanish as a common language, but the individual scientists come from cultures all over Earth, and often converse in a dense cosmopolitan argot. The inhabitants are dedicated to their work, regarding it as their mission to help develop Poseidon without harming the planet's natural beauty and wealth. The station's crew plays as hard as it works, with highly competitive chess, contract bridge, and hydroshot leagues.

The working portions of Coronado Station are off-limits to non-Biogene citizens. Even the Biogene transport crews who bring supplies are examined carefully by station security, and may not enter the main lab complex without a high-level security clearance. The station is well protected by its security detachment, and an impressive array of automatic sensors and weapons emplacements. Recently, rumors have spread of some kind of disaster at Coronado – even Biogene transports have been denied direct access to the station, and all non-Biogene transport has been re-routed. Some outsiders have speculated that the station is under some kind of quarantine. Biogene neither confirms nor denies such speculation.

Northwest Territories

The Despoilers have come again. They will try to do to Poseidon what they did long ago to Earth. We must be prepared to resist them. We must be ready to struggle, to suffer, to die if need be. We must also be ready to kill.

— From a speech by Prophet,
Baffin Island spiritual leader, circa 2165

The northwestern quadrant of the Pacifica Archipelago contains a chain of islands, designated as the Northwest Territories in the colonial survey of 2167. This region of the Archipelago exhibits more topological diversity than any other, from the bleak volcanic formations of Storm and Tranquility Islands, to the lush greenery of Isla Verde, to the mountainous reaches of the Sierra Nueva Cluster.

The Northwest Territories enjoy consistently hot, humid weather, although the different topographies of the local islands give rise to local variations in climate. The region usually receives very heavy rainfall. The island chain is in the middle of the Storm Belt, and cyclonic storms are a constant danger. Indeed, due to the overall pattern of Poseidon's weather, some storms hit the island chain twice – circumnavigating the planet between the first and second assaults.

The Northwest Territories were colonized very late, with only one remote science station in place before the Abandonment. The first permanent colony was established in 2098, when a pair of charismatic cetaceans led over a hundred colonists to settle in the Sierra Nueva Cluster. Even after Recontact, new arrivals were scarce – until the Long John boom began. Since then, Incorporate investment has brought many newcomers to the region, especially to the company towns of Santa Elena and Caernafon. The Northwest Territories remain the Archipelago's "outback," and are the site of one of the fiercest ongoing conflicts between native and newcomer factions.

NORTHWEST TERRITORIES ⊗ NORTH
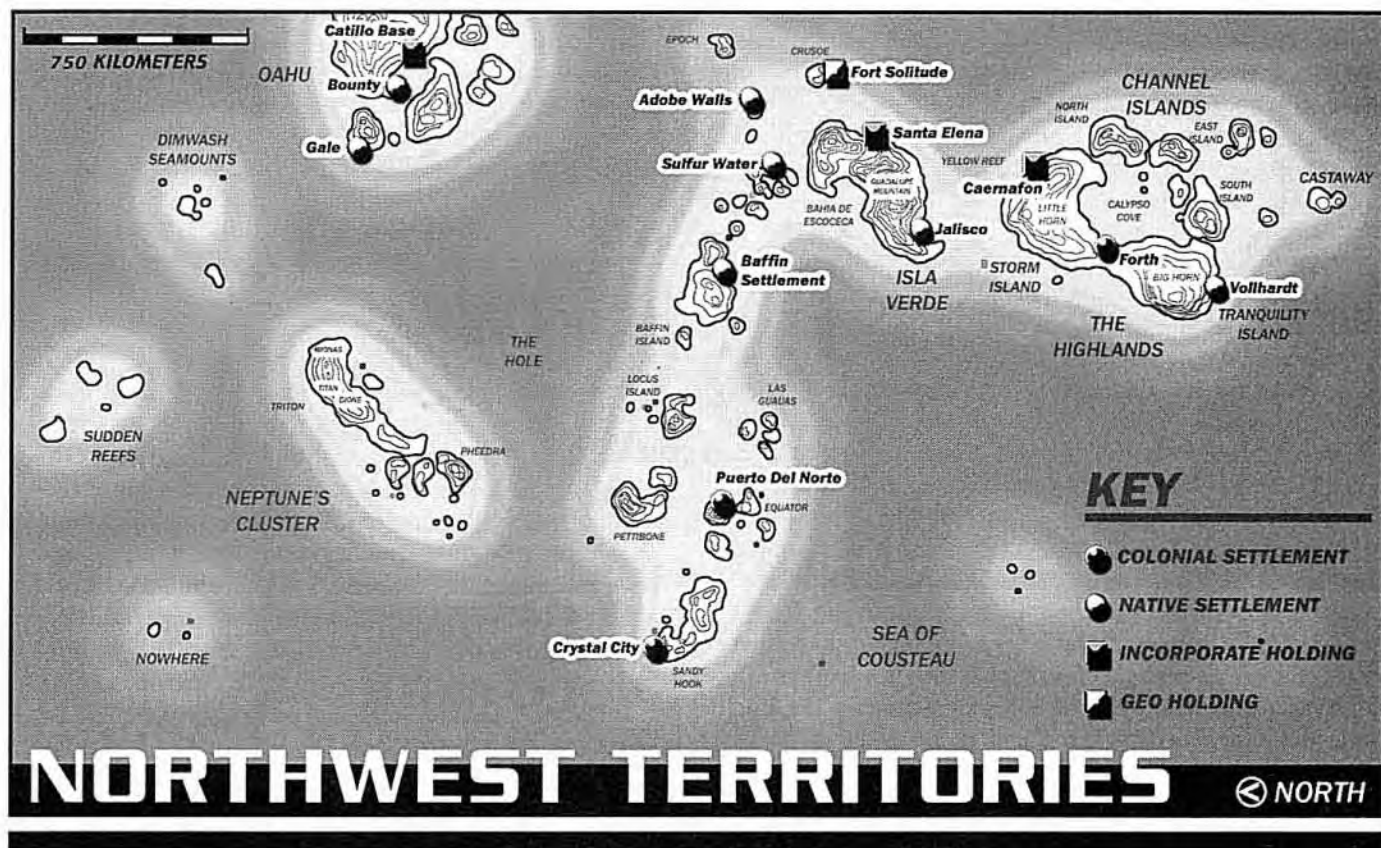
Sierra Nueva Cluster

The Sierra Nueva Cluster is composed of dozens of small volcanic islands and atolls, located just south of the equator and at about 13° west longitude. The region is not obviously hospitable to humans or cetaceans, but there is an extensive network of local native tribes.

The cluster was settled immediately after the Abandonment. The leaders of the new colony were not human, but cetacean: a dolphin mystic named Sage and a wandering orca soldier named Bataku. No written records survive from that period, but the natives have preserved many stories of the colony's foundation. Apparently Bataku and Sage were exponents of a radical sect of dolphin animism, committed to a deep communion with and reverence for nature. Finding even the native settlements around Haven to be too mechanistic, the cetaceans led a group of colonists across the great distance to the Sierra Nueva. The region seems to have attracted them because of its bleakness. The active vulcanism and frequency of cyclonic storms meant that the radical settlement would remain isolated for the foreseeable future.

The Sierra Nueva colonists were not heard from for decades, but they must have thrived. Once the Long John rush brought Incorporate settlers to the Northwest Territories, the Sierra Nueva tribes went on the warpath. The natives are hostile to all outsiders, whether from GEO or the Incorporate states. In particular, the proximity of Sierra Nueva to the main GenDiver shipping lines has made that corporation a favorite target for the natives. GenDiver has mounted several violent reprisals, and the GEO has deployed troops to the region to "pacify" the natives, but the process has been particularly

trying. Local terrain is difficult and unfamiliar to newcomers, and the Sierra Nueva natives have somehow gained access to supplies of modern weaponry. Meanwhile, both Incorporate and GEO forces have had to rely heavily on cetacean auxiliaries – but these have been particularly prone to defection.

No outsider can be sure how many natives live in the Sierra Nueva area, but the most credible estimates place the total population at about 1,200. About 750 of these are human aquaforms; the rest are cetaceans. It is believed that Sierra Nueva hosts the largest orca community on Poseidon. Certainly orcas are very influential in the native society as a whole.

The native tribes apparently use a very simple and pragmatic form of government. Natural leadership ability is at a premium, especially when combined with cunning and prowess in battle. Leaders are recognized by consensus, and hold their position so long as the community considers them to be fulfilling their duties. The leader and war-captain of a tribe are never the same person; one manages the affairs of the tribe at home while the other leads warriors out to raid.

The natives of this region have a lifestyle that is completely independent of high technology. The native settlements are primarily housed in underwater cavern complexes, for concealment and protection from cyclonic storms. Humans maintain a few above-water structures, such as floating docks and storage units. The cetaceans live much as their ancestors did, moving about freely and hunting for prey in the rich waters. What organized economic activity exists centers around the seasonal caneopoise hunts; an increase in sunburst poaching by newcomers is another source of friction.

Baffin Island

The most important native settlement in the Sierra Nueva Cluster is on the rugged volcanic outcropping known as Baffin Island. Baffin is the largest landmass in the Cluster, a very young island still in the final stages of being thrust up from under the ocean's surface. Its terrain is characterized by steep, rugged peaks and deep valleys. The main volcanic cone, Mount Ajo, is an active volcano that is constantly belching out smoke and fumes (although no magma eruption has taken place since the arrival of humanity).

The cetacean leaders Bataku and Sage (p. 110) established the native settlement in 2098. Bataku was a trained combat veteran, who had seen action in several campaigns on Earth before coming to Poseidon. Like many veteran orcas, he was eager to leave Earth, and he was quite sensitive to the eco-reverent worldview espoused by dolphin mystics like Sage. On Poseidon, Bataku was often tempted to leave the settlement behind and survive in the wild as best he could. He remained near Haven out of a sense of duty, however – until the colonial government decided to disperse the settlements in the wake of the Abandonment.

Bataku and his mentor Sage led a number of cetaceans away from Haven. Over 50 humans accompanied them, mostly younger colonists who had been born on Poseidon and lacked any emotional attachment to Earth. The first years were very hard for the settlement's humans, who lacked almost any technological support and struggled to adapt to a community led by cetaceans. Over time, the Baffin Island natives developed a society unlike almost any in human history, an isolated splinter culture in which humans borrowed much of the cetacean worldview.

At first, Recontact had almost no effect on Baffin Island. Prophet, the dolphin leader who had taken responsibility for the community's spiritual life, warned that "Despoilers" from Earth would one day return to Poseidon. Soon, sporadic word came from the outside about the arrival of newcomers, and later about the first activities of GenDiver on nearby Isla Verde. The community turned inward, fearing any contact with outsiders.

By 2178, Bataku's descendant (also named Bataku) had become the war-leader of the Baffin Island tribe. In that year, he sent an emissary to the new GenDiver company town on Santa Elena. The natives claimed the Sierra Nueva Cluster and demanded minimal contact with newcomers, but the GenDiver director rebuffed the demand. He informed the natives that they had no legal title to any of the Cluster, and that GenDiver was likely to gain mineral rights in the region from the GEO. This abortive negotiation proved fateful, when in 2185 GenDiver discovered extensive xenosilicate deposits in the region. Survey teams were sent in, followed by mining crews, all guarded by heavily armed GenDiver security personnel.

Contact between the new GenDiver teams and the Sierra Nueva natives was hostile almost from the beginning. In recent years, it has escalated to open war, as native and GenDiver forces fight a bitter campaign of raid and bloody reprisal (see box, p. 112). The Baffin Island settlement, led by Bataku the younger and the mystic Prophet, is the heart of native resistance in the region.

The main Baffin Island village has about 400 inhabitants. Of these, about 250 are aquaformed humans, 110 are uplifted dolphins, and the remaining 40 are uplifted orcas. The orcas may be a numerical minority, but they are nevertheless one of the most respected segments of local society. About 20 of the local cetaceans are actually newcomers, dolphins or orcas who have immigrated from elsewhere. A few of these are actually defectors from GEO and Incorporate military forces. These cetaceans are apparently full and trusted members of the community – it's not known whether the native cetaceans have a way of dealing with double agents, or are simply unconcerned about the possibility.

The natives of Baffin Island have a very informal government. Bataku the younger is the undisputed leader of the settlement, unifying the entire community through his charisma and his battle cunning. However, his actual duties are limited to leadership in the continuing guerrilla war against outsider influence. Day-to-day management of the settlement is in the hands of the mystic Prophet and a council of 10 elders. Prophet also seems to be in charge of strategic planning, choosing targets for Bataku's military raids.

The Baffin Island natives have a very primitive existence. They survive through subsistence farming, fishing, hunting, and gathering. They engage in almost no trade with other communities. The center of their yearly cycle is the seasonal hunting of sunbursts; during the mild winter, the natives take up a nomadic lifestyle, following the sunburst herds to harvest meat and raw materials. Recently, the natives have gained access to modern weapons and military equipment; outsiders suspect that someone is covertly arming and training them in an attempt to undermine GenDiver.

The settlement itself is well-concealed in a hidden cove, protected from the outside by a sharp barrier reef. There are above-ground structures, especially for the human members of the community, but there is also an extensive network of underground tunnels. These caverns open out both on land and underwater, and provide a network of warrens that the natives can retreat to during the storm season or in other times of crisis.

Santa Elena

Santa Elena is located on the eastern coast of Isla Verde, in the heart of the Sierra Nueva Cluster. The island, while rich in lifeforms, is topographically quite rugged. The settlement covers several hundred square kilometers of cleared rainforest, situated between the island's two largest peaks for modest protection from cyclonic storms.

GenDiver presence on Poseidon actually dates to the first colony, but no "company town" was placed on the planet until after Recontact. Their first permanent settlement was built on Isla Verde in 2178, as a base for surveys and research on local resources. This initial base proved to be perfectly situated when xenosilicates were discovered in 2185. Within two years, GenDiver had purchased its own fusion torch-ships and was flooding Santa Elena with colonists and equipment.

GenDiver

GenDiver was established in the early 21st century in San Diego, California. During a period of social unrest, the company struck a deal with the Mexican government that allowed it to establish a city-state on Guadelupe, an island off the coast of Baja, California. GenDiver was always a direct competitor to Biogene (p. 107), likewise benefiting from the rapid growth of biotechnology industries in the 22nd century. It has long been a pioneer in the fields of genetic engineering and genetic surgery; one of its first major contracts was the design and implementation of aquaform transformations for the initial Poseidon colony.

Over the years, GenDiver has always faced stiff competition from its larger rival, Biogene. This competition has caused a kind of inferiority complex to be ingrained into GenDiver corporate culture. GenDiver is often an aggressive and confrontational firm, using means both fair and foul in order to win economic or political advantage. The company has often been accused of breaking both the Icarus Accords and GEO law, using industrial espionage, sabotage, and assassination to further its aims.

Since re-opening operations on Poseidon, GenDiver has further antagonized many of its corporate and political rivals. It openly denies political recognition to the GEO, and refuses (as far as it is able) to comply with GEO regulations and inspectors. It is rumored to have used violence against other Incorporate facilities, the most infamous incident being the "accidental" torpedo attack that destroyed the main Atlas Materials undersea laboratory in 2192. GenDiver is also engaged in a fierce guerrilla war against native tribes on Poseidon, especially in the Sierra Nueva Cluster. To be sure, some of the natives have themselves been very aggressive in attacks on GenDiver facilities and transports. Even so, GenDiver reprisals have not always been measured or carefully targeted. As a result, native advocates refer to GenDiver security teams as "death squads."

The future of GenDiver seems ambiguous. Although it has moved into a leadership position in several areas of technology and industrial production, its lawless reputation expose the firm to retribution in the political arena. For now, GenDiver remains one of the most active and prosperous Incorporate states on Poseidon.

By 2190, GenDiver had laid claim to several of the richest xenosilicate deposits on Poseidon, all in the Northwest Territories. They constructed a major xenosilicate refining plant at Santa Elena, which was supported by a settlement that had grown to over 10,000 inhabitants. Soon afterward, however, company transports and survey teams began to come under attack from armed native "warpods." Over the past few years, Santa Elena has become not only a boomtown, but also a fortified base in a small but very vicious war.

At present, the population of Santa Elena is over 20,000. The vast majority of Santa Elena residents are humans (over 99%), newcomers (98%), and GenDiver employees (90%). The major social distinction in the company town is between GenDiver citizens and non-citizens. About two-thirds of the population are non-citizens, indentured workers brought in from Earth to work in routine GenDiver operations. Citizens live in considerable luxury in the "resort town" sections of Santa Elena, where the native wildlife has been cleared away and the town resembles an upper-class pre-Blight suburb. Non-citizens live in prefabricated barracks or work camps at some distance from the center of town. The non-citizen areas are relatively austere compared to citizen housing, but conditions there are still considerably better than in a Haven slum or a Shimushir coffin stack.

Santa Elena is a typical Incorporate company town, run by Steven Crawford, GenDiver's planetary director of operations. He concentrates on strategic decisions, leaving most day-to-day operations in the hands of an Executive Board and expert city administration. GEO presence in Santa Elena is visible but not overly active; there is a consulate in the city, but GenDiver treats it as an enemy outpost and restricts contact. Security in Santa Elena is unobtrusive but very tight – crime is very low even in the non-citizens' housing blocks, and visitors are tracked very efficiently.

Santa Elena was built on the Long John industry. Mining, refining, and various supporting industries make up most of the town's economic base. These operations are not the largest on Poseidon, but they are probably the most profitable and efficient, and GenDiver is very interested in keeping them that way. To save costs, GenDiver has also relocated most of its genetic research and development facilities to Poseidon, thus allowing them to use xenosilicates without having to ship them all the way back to Earth. GenDiver is expanding into a variety of new industries, but thus far the xenosilicate boom provides the lion's share of company revenues.

Crusoe Island

The GEO Armed Forces maintain a military base, often called Fort Solitude, on Crusoe Island. The base is located about 300 kilometers northeast of Santa Elena, allowing troops to be deployed either to the company town or to the Sierra Nueva Cluster in only a few hours. The island is very bleak – a low, sandy atoll which hosts only a scattering of hardy plant life.

Fort Solitude was established in 2195, in response to the rapid spread of violence in the Sierra Nueva region. The GEO Justice Department had first responded with increased Native Patrol efforts, but this strategy failed dismally. When Fort Solitude was constructed, the GEO issued a statement that the garrison there would be responsible for "pacifying hostile elements in the Sierra Nueva region." To date, the GEO forces have spent most of their overt efforts in campaigns against the native tribes of the region.

This strategy is more complex that it first appears. GEO strongly suspects that GenDiver has mounted unprovoked attacks against the natives, but so far it has been able to locate no proof. The only well-documented GenDiver operations have all been reprisals for earlier native attacks, well within

- COLONIAL SETTLEMENT
- NATIVE SETTLEMENT
- INCORPORATE HOLDING
- GEO HOLDING

DOLPHIN SEA

MEDINA STRAIT

PRIME MERIDIAN

500 KILOMETERS

Leeshore

DALI RIDGE

Alderberg

Cooper's Ferry

NORTH DRAKENSBERG

CURLY

FOSTER'S BAY

Al-Mamlakah

PEBBLE ROCKS

Goodall

SOUTH DRAKENSBERG

Herington

LARRY

NIAHAU CHANNEL

MERIDIAN'S SUMMIT

MOE

ADIOS

NIAHAU

THE JIGSAW

SHARK'S TOOTH CAPE

VIEGO

Lucky Strike Mines

GREAT EASTERN PLATEAU

MOUNT ADONAIS

ISLAS BONITAS

VATHEK RIVER

THE NARROWS

MERIDIAN RIVER

NOCHES

Viego Acres

Kansas

Byron's Spur

Southport

PRIME MERIDIAN

NORTH

the Incorporate state's rights under law. GEO Internal Security is working secretly to uncover evidence of GenDiver illegality – but until such evidence turns up, the Crusoe Island garrison must continue to fight a very public and very unpopular war against the natives.

At present, Fort Solitude is one of the harshest GEO assignments on Poseidon. Casualties among the GEO forces have been much higher than among their native antagonists, and that was true before the natives began turning up with high technology weapons. Aside from casualties, the detachment has also suffered from desertions, especially from among the cetacean contingent. Meanwhile, the small civilian settlement that has grown up outside Fort Solitude's walls plays host to several anti-war activist groups, who demonstrate frequently and do their best to provoke the soldiers. Morale is at rock bottom, and most soldiers stationed at the base just want to do the minimum possible to get by and survive until they can be transferred elsewhere.

The GEO detachment on Crusoe Island includes 124 permanent personnel, organized into two platoons with 35 combat effectives each. There are 12 cetacean soldiers attached to the garrison. The rest of the GEO detachment are staff and noncombat support personnel. The civilian town outside the walls is named Crusoe, and has only 16 permanent residents.

Fort Solitude is under the command of Captain Jacob Stone of the GEO Armed Forces. The base is "governed" along traditional military lines, with Captain Stone reporting to senior officers at Fort Pacifica (p. 123).

Prime Meridian

The largest single landmass on Poseidon is the mini-continent known as Prime Meridian. The place is unique in many respects. The island rises steeply from the ocean, its volcanic backbone (the Drakensberg Mountains) standing over five kilometers above sea level. Much of the interior is high and arid, a broad savanna in the rain shadow of the Drakensbergs. In contrast, the eastern mountain slopes receive a great deal of rain year-round, fostering the largest rainforests and jungles on Poseidon. In the south, well-watered plains provide some of the best farmland on the planet.

Prime Meridian is located some distance due south of Haven, straddling the same base line of longitude as the older settlement. The island's settlement is being driven not only by the Long John boom, but also by the need for a variety of other forms of economic activity. The island is home to Poseidon's most extensive farming and ranching operations, as well as the planet's largest industrial operations.

Al-Mamlakah

Al-Mamlakah is built on the north shore of Prime Meridian, on a large natural harbor known as Medina Bay. Much of the city is built on a gently-rising coastal plain, which provides plenty of room for residential settlement. Meanwhile, Medina Bay is flanked by two flat headlands, which provide natural landing fields for aircraft as well as some protection from the occasional cyclonic storm.

Atlas Materials

Based in Marrakesh, Morocco, Atlas Materials is one of the few Incorporate states that is still headquartered in its country of origin. A consortium of very wealthy Muslim industrialists founded Atlas Materials in the early 21st century. The corporation was well positioned to survive the Blight, with control over many mining interests in Africa and close ties to the interplanetary colonies. When the Blight was finally controlled, Atlas was first in line to benefit from humanity's push back into space.

Atlas Materials was also one of the first Incorporate states to set up shop on Poseidon. It was Atlas scientists who discovered xenosilicates and first investigated their properties. Atlas was the first corporation to establish large-scale Long John mining and refining, and it was the Atlas transport fleet that first began to import Long John to Earth in quantity. Even after the corporation lost its monopoly on Long John, it continued to profit from the boom by providing facilities and construction expertise to other Incorporate states. Today, Atlas is one of the wealthiest Incorporate states.

Atlas is also quite well regarded in political circles. It enjoys good relations with the Moroccan government. It is also one of the most ecologically responsible corporations on Poseidon, despite its heavy involvement in Long John mining. It invests a great deal of money each year in research into eco-friendly technologies and industries. As a result, Atlas has a very cordial relationship with GEO, and is even tolerated by most native factions.

Al-Mamlakah is the primary "company town" of the Incorporate state Atlas Materials (see box, above). Atlas was one of the first Incorporate states to begin heavy investment in Poseidon after Recontact. Atlas was involved with the GEO recontact effort from the beginning, providing massive cargo vessels for transport to Poseidon. Soon afterward, a shift in corporate strategy led to the foundation of Al-Mamlakah, as a surface receiving port tied to a new cargo-offloading station in Poseidon orbit. The settlement ironically benefited from a disaster to Atlas' interstellar fleet, when the massive cargo transport *Jebel Chalia* suffered a catastrophic failure in Poseidon orbit. The hulk was salvaged, many portions of it being transported down to provide the new settlement with building materials. In particular, the starship's control tower was landed early on, becoming the core of the Second Mosque of the Patriarch – the spiritual and cultural center of the city.

The majority of Al-Mamlakah's population are newcomers associated with Atlas Materials. Of the city's 28,000 inhabitants, 19,000 are Atlas Materials citizens, another 5,000 are service or contract employees, and the rest work for themselves or for some other institution. A few hundred natives live in Al-Mamlakah, most of them working as fishermen, ranch hands, or guides into the interior. Al-Mamlakah is distinctive because of the prevalence of Islam among the city's population. People of other faiths are tolerated and even welcomed in the city, but over 24,000 of the residents are Muslims.

The city government is operated by Atlas Materials. The senior local official is a city manager, Dr. Sharad Patel, a senior Atlas executive. Patel, nicknamed "the Sheik" by the city's Arab residents, is an efficient and very hardworking official. He has wide authority to control Atlas Materials' personnel and resources within the city, although he is careful to consult with his superiors on overall corporate strategy. Relations with the GEO are fairly cordial. There is a post for a GEO Marshal in the city, but it is currently vacant. The primary GEO operation in Al-Mamlakah is the local ERT station (p. 96), which is held in high esteem by the community.

Al-Mamlakah is a heavily industrialized town, with a superb and well-maintained infrastructure. Long John refining and support of xenosilicate mining operations are major Atlas activities. Al-Mamlakah is the only town on Poseidon with the facilities to build and repair large orbital shuttles, or the massive fusion power plants that drive them. The local vehicle manufacturing plants also have more capacity than any others on the planet. Atlas Materials has a number of other diverse interests, all of them managed from Al-Mamlakah.

The city itself is comfortable and well-built, with a vaguely Middle Eastern style in architecture and planning. Major landmarks include the Second Mosque of the Patriarch, as well as "the Kasbah" (which is actually a heavily fortified command center for Atlas operations). Al-Mamlakah is well fortified, with a cutting-edge sensor grid and plenty of weapons emplacements on the most likely lines of approach. This feature of the city dates to 2192, when a GenDiver submarine "accidentally" destroyed Atlas Materials' Undersea Habitat-1 installation. Several months of low-intensity warfare between the two Incorporate states followed, ending only when the GEO Marshals and garrisons arrived on Poseidon. Al-Mamlakah is still unobtrusively but carefully protected.

Undersea Habitat-2

Atlas Materials has built a number of undersea habitats in order to facilitate exploitation of Poseidon's Long John fields. The largest of these is Undersea Habitat 2, built in 2187. Undersea Habitat-2 is in the Dolphin Sea, northwest of Al-Mamlakah, in a location convenient to the Pebble Rocks atoll chain. The Pebble Rocks xenosilicate fields are among the richest on the planet, so the habitat is of particular importance to Atlas operations.

Undersea Habitat-2 (also called "Rock Bottom" by Atlas personnel) is a very large facility, with modules extending from the sea floor to the surface, a total distance of some 3,000 feet. The Primary Dome is the central structure, and is connected to four "bubble" habitats and a massive xenosilicate refinery. A floating platform, called Flattop, rests on the surface and is tethered to the Primary Dome with a heavy cable. The complex is located within six miles of over a dozen important xenosilicate deposits, and supports mining operations at all of them.

Over 3,000 Atlas Materials personnel live and work in the Rock Bottom complex. Most of these are modified humans, although there are many cetaceans and an unusual number of spacers (p. 18). Atlas Materials has found that

spacers are most likely to adjust well to the cramped quarters aboard the habitat. Despite the gravity-related health problems they face, they are often among the habitat's most efficient workers.

Alderberg

Alderberg is located on the southeastern coast of the island of Salvador, a smaller landmass just northwest of Prime Meridian. The town's location is not ideal. Its harbor is rather shallow. There are extensive salt marshes to the north which house biting insects and various small but rather dangerous predators. The most prominent feature is nearby Mount Dali, a snow-capped volcano that towers more than 3,000 meters into the air in the island's interior.

Alderberg was established in 2186, sponsored by the Roman Catholic Church at the height of Pope Lucius V's "Lambda Serpentis Crusade." Pope Lucius is something of a visionary, who insists that the Church play a role in humanity's interstellar expansion. He was able to get a GEO charter for a Catholic religious establishment on Poseidon, especially since he did not insist on choosing a site with great resource value or a strategic location. Volunteers for the settlement were chosen from among the priesthood, the monastic orders, and the laity. After arriving on Poseidon, they built Alderberg to be rather isolated, and yet capable of serving as the center of Roman Catholic activities on the new world.

At present, Alderberg has just over 1,100 inhabitants. About 400 of these are members of the monastic community that serves as the heart of the settlement: the Monastery of St. John the Divine. Although St. John's is officially a Dominican establishment, it has drawn staff from all of the monastic orders of old Earth. Meanwhile, ordained clergy make up a very high percentage even of the town population outside the monastery. Alderberg's people were chosen from among the best minds in the Church, so the town is a thriving scientific community as well as a religious center.

Although there are several senior religious figures on hand in Alderberg, the town's day-to-day operation is in the hands of an elected town council. The Abbess of St. John's and the Bishop of Alderberg hold non-voting seats on this council. Abbess Helen Delores Rich, in particular, attends regularly and acts as a liaison between the town and the monastery. Meanwhile, Archbishop Damon Lotaviano uses St. John's as the seat of the Archdiocese of Poseidon, working from there as the spiritual leader of all Catholics on the planet.

Alderberg is far from self-sufficient. The town has no heavy industry and very little commercial activity. Many of the citizens help out with communal agriculture, but even this is insufficient to feed the community's population. Instead, the Catholic Church heavily subsidizes the town and all its activities. Just how much the Church has invested in the community is a secret, but outside observers estimate that the sum is huge. There has been speculation that the Church has a hidden agenda, beyond that of simply planting a Catholic presence on Poseidon.

Kansas

In the midst of the southern plains of Prime Meridian sits Kansas, a small town that is one of the rare land-locked settlements of Poseidon. Kansas rarely suffers from cyclonic storms, sheltered as it is by nearby mountains, but the region is tectonically active. Earthquakes are common, and some of the nearby volcanic cones are active enough to sporadically drop ash and debris across the settlement. The surrounding country is characterized by rolling plains, stretching from the Drakensbergs to the north to the stark sea-cliffs of Prime Meridian's south coast.
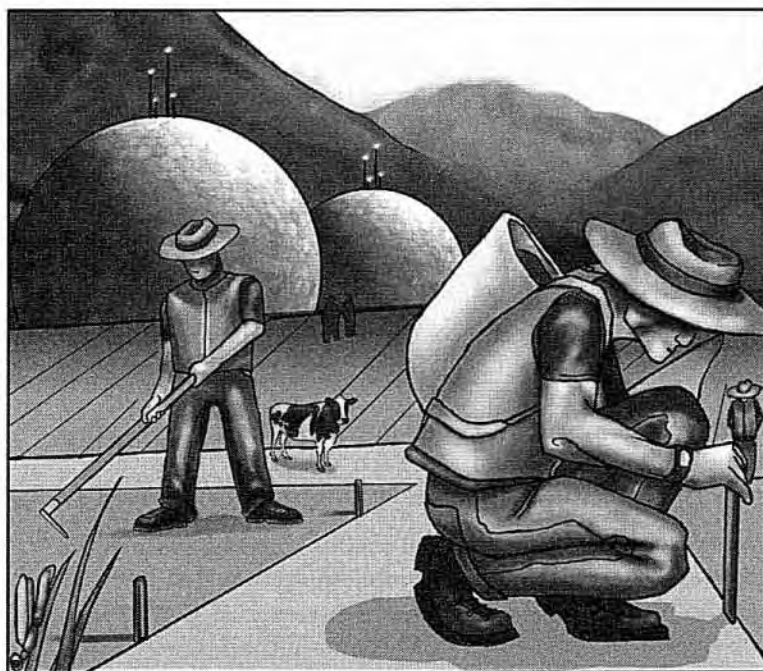
Kansas began existence as a native settlement, a trading post used by several of the bands that had filtered south past the Drakensbergs to live in the upland area. After Recontact, newcomers joined the thinly-scattered natives to set up farms and ranches in the region. Kansas continued to grow in an unplanned fashion, eventually acting as the de facto capital of the region. Atlas Materials and the GEO have both offered to buy out and develop the settlement, but all offers have been rebuffed. The Kansans enjoy their independent lifestyle – and the economic importance of their farms and ranches has given them just enough influence to defend it.

Most of the inhabitants of the Kansas region are newcomers, although there remain a considerable number of natives in the area. The two groups have established a common local culture that puts them on an equal footing (and which is quite unlike the primitivist native culture common elsewhere on the planet). Kansas has about 2,800 permanent residents, although the town's population can spike to over 30,000 during the seasonal cattle markets. About 6,000 people are scattered among the various farms, ranches, agrarian communes, and mining camps in the surrounding countryside. Most of these smaller settlements run from about 50 to 200 people. North of the Kansas plains, the Lucky Strike mining complexes sit on the Drakensberg slopes, and usually house about 1,600 people.

Kansas is a rather wide-open and lawless town, with a small and very pragmatic government. The mayor is Kristina Brunner, a rancher who has held the position for the last 16 years. She has exhibited a great deal of talent in keeping the respect of citizens and landholders, and keeping the peace. Meanwhile, the local GEO Deputy Marshal is a Poseidon native named Luther Rainslaker, who grew up out among the smaller islands of the Archipelago. He, too, is well respected by the Kansan citizenry, although he and Mayor Brunner have an almost pathological inability to get along with one another. The two fall into vicious arguments whenever they meet – yet between the two of them, they manage to keep Kansas at peace and confident in the rule of law.

Kansas sits at the end of a maglev train line, running through the Drakensbergs from Al-Mamlakah. Three times a year, for 10 days at a time, Kansas holds market. Most of the activity takes place in the so-called "Pits," a pair of dilapidated buildings that combine convention center, stockyard, and commodities exchange. There, the Kansans sell their cattle, fruit, grain, and other agricultural produce to agents coming from all over the Archipelago. Although fish and seafood are staples all over Poseidon, the agricultural products of Kansas are a popular supplement, commanding high prices. Meanwhile, Atlas Materials' Lucky Strike mines produce chromium, diamonds, gold, granite, marble, obsidian, platinum, uranium, and many other useful mineral products. Although these are transported and processed directly by Atlas, the mines do bring considerable wealth to Kansas in the form of support contracts and miner's pay.

Westcape

Far to the southwest of Haven, the large island of Westcape marks the extreme end of the Pacifica Archipelago. Like much of the Archipelago, the island is of volcanic origin, and is believed to be quite "young" in geological terms. It is the Archipelago's second largest island, roughly the same size as New Guinea on Earth. Tropical rainforest is prevalent in the east, covering the slopes of a range of rugged mountains. These mountains create a rain shadow that covers most of the rest of the island, making the central and western regions arid desert.

The most obvious approach to Westcape from the sea is through Westcape Channel, leading into the enormous natural harbor of Southpoint Bay. These bodies of water are choked with limestone islets and coral atolls, making navigation hazardous. The native tribes of Westcape hold a regatta in these waters every spring, resulting in many shipwrecks.

Another unusual feature of Westcape is the low salt pan called Hell's Basin. This area was an open bay quite recently in geological terms, but was blocked off from the sea by tectonic activity. Later vulcanism laid down a thick coat of ash. Since then, the water-soluble ash has been heavily eroded, leaving behind an exotic landscape of balancing rocks, pillars, sheer cliffs, and magnificent stone arches.

Despite its remoteness and harsh nature, Hell's Basin attracts a few hardy tourists every year. Even more attractive are the basin's major export – water opals. These are distinctive silicate stones, found only in the few hot springs of the Hell's Basin region. Their beauty is due to the presence of the

WESTCAPE

KEY

● COLONIAL SETTLEMENT
◖ NATIVE SETTLEMENT
■ INCORPORATE HOLDING
▨ GEO HOLDING

① NORTH
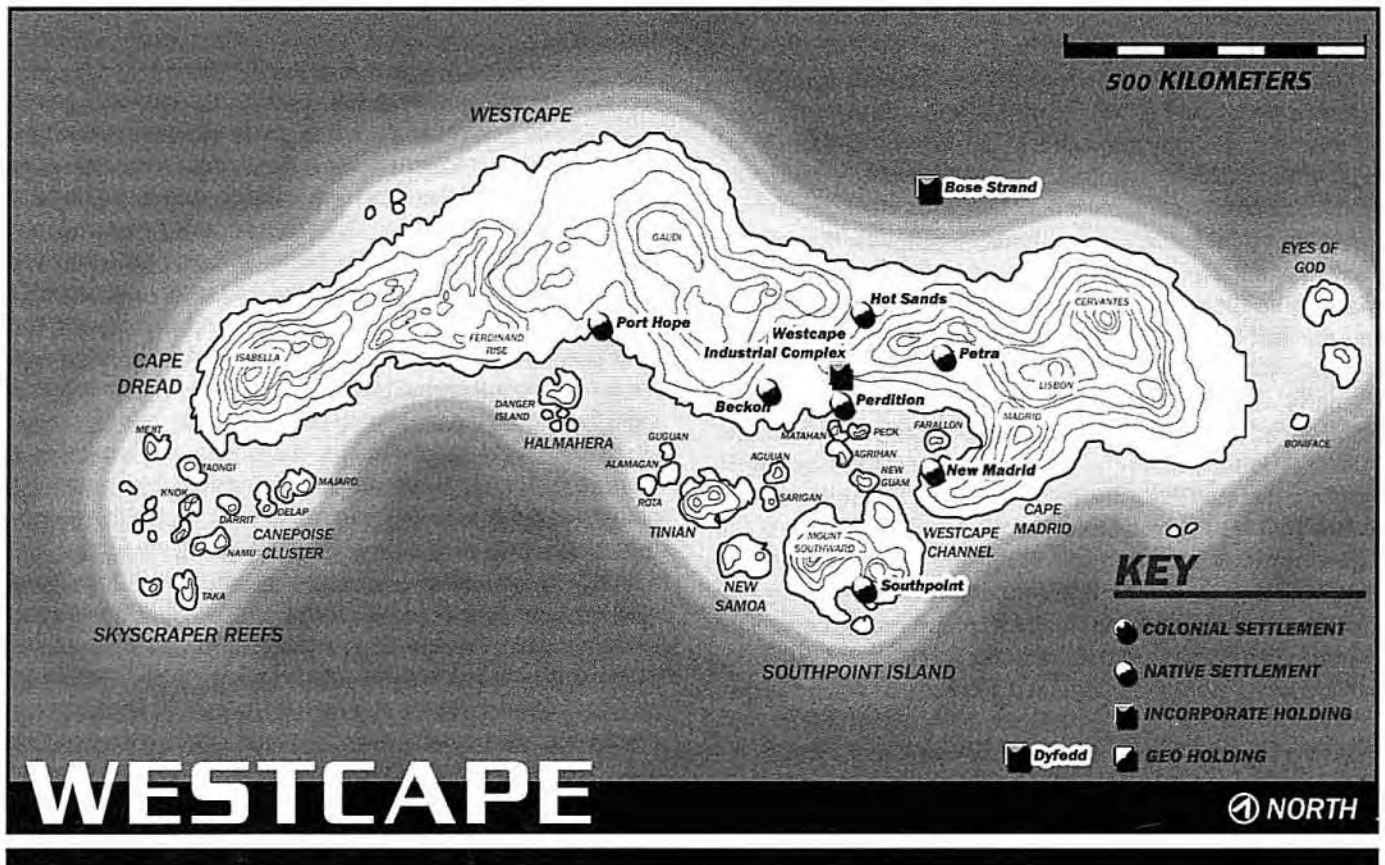
siliceous hulls of unicellular organisms that once lived in the Basin. Water opals are glassy stones, which refract light in firework-like bursts. They are prized by the natives, and are also exported as far away as Earth.

Westcape was settled fairly late, the first natives arriving in 2124. The various native tribes who settled this remote island tended to be drawn from ethnic minority groups within the Athena Project colonists. Tensions were high in the early years on Westcape. Repeatedly, a group would settle in the main native town (Perdition), fail to get along with its neighbors, and then strike out to form an independent settlement elsewhere on the island. Although these tensions have largely healed over, the natives of Westcape remain stubbornly independent and fond of their isolation.

Since Recontact, the Westcape population continues to grow, especially since the foundation of the Lavender Organics company town on the island. Hanover Industries is also building two facilities on Westcape, in particular an extensive mining operation that seems likely to plunder the mineral wealth of the island.

Dyfedd

Dyfedd is unique among the planet's Incorporate settlements in that it is not fixed in one location. Instead, it exists as a floating city, fully capable of moving across Poseidon's oceans in response to wind, current, and corporate policy decisions. The city's small fleet of tugs can tow it along at about 2 mph, but the city's managers do most of their maneuvering by taking advantage of local currents. Dyfedd can usually be found southeast of Westcape island.

Construction of the floating city was finished in 2185, as part of Lavender Organics' plan for exploitation of Poseidon's resources. The Incorporate has long been famous for long-term planning and innovative use of technology. Dyfedd was designed in an attempt to not only generate a profitable base for Lavender Organics operations, but also to generate a variety of useful spin-off technologies. In fact, the city was built almost exclusively from local materials, especially bioplastic from the Lavender Organics manufacturing plant near Caernafon.

Dyfedd was designed with a heavy emphasis on modular construction, allowing it to expand as Lavender Organics expanded its on-planet population and its operations. At present, the city is composed of seven rafts, each hexagonal in shape and just under a kilometer across. The rafts are named after figures from Welsh mythology: Ceridwen, Gwydion, Hywel, Manannan, Taliesin, Rhiannon, and Myrrdin. Each raft carries a number of tall structures, which also extend some distance underwater to form an "undercity." The overall effect is one of great beauty, attracting many visitors as well as Lavender Organics citizens.

The permanent population of Dyfedd is about 6,200. About half of these people are Lavender Organics citizens. The citizens are wealthy, well educated, sophisticated, and unusually tolerant of outsiders. The Lavender Organics corporate culture encourages its citizens to be loyal to the company, but open-minded and respectful of outsiders. As a result, the corporation has a very good reputation for an Incorporate state, and is uniquely welcoming to non-citizens.

Around 3,000 of the city's inhabitants are non-citizens. As far as the Incorporate state is concerned, there are no legal or social distinctions among non-citizens. In practice, the non-citizens themselves recognize a well-marked distinction between "independents" and natives. Lavender Organics is almost unique among the Incorporate states in its attitude toward Poseidon's natives – they are welcome to live in Dyfedd, are often employed by the corporation, and can be quite successful. The independents, newcomers from Earth who are employed by Lavender Organics but do not hold Incorporate citizenship, are not so tolerant. They tend to segregate themselves into housing complexes in which natives are not welcome, and practice other forms of social discrimination. The independents usually regard natives as "primitive," although in many cases the natives of Dyfedd are more sophisticated than people newly arrived from Earth.

Dyfedd's architectural beauty and unique facilities attract many tourists. There are usually about 1,500 tourists on the city at any given time; this number swells to about 4,000 during the Planetfall and Christening celebrations. Tourists capable of making the trip to Dyfedd tend to be very wealthy, but also very arrogant and self-centered. Their money is welcomed, but many of Dyfedd's permanent inhabitants (especially the natives) detest them as people.

Dyfedd is governed in typical fashion for an Incorporate company town. The head of each major division of the city's workforce sits on the board of City Governors. Representatives on the board include the heads of Agricultural Production, Engineering, Maintenance, Manufacturing, Personnel, Power, Research and Development, Security, Tourism, and Waste Management. The elected citizen's council also appoints a representative to the board, although it plays little other direct role in city government. There are also a number of nonvoting members, who represent smaller interests within the city's operating hierarchy. The City Governors vote on all policy issues of substance, requiring a two-thirds majority for any measure to pass. Decisions that exceed the board's authority (and deadlocked votes) are referred to Earthside management.

While the City Governors rule Dyfedd, its management is largely in the hands of Hugo D-4. "Hugo" is the dominant artificial intelligence that animates the entire Dyfedd computer net. Dyfedd is heavily automated, so Hugo is in charge of almost every significant system on board the floating city. It manages the maneuvering engines, the power plant, the waste management systems, the public trams, the air-traffic control system – it even runs primary instruction in the city's education system.

Hugo is very likely the most sophisticated AI in existence, and is the "bleeding edge" of Lavender Organics' research effort into advanced computer control. Along with its industrial and city-management roles, Hugo is potentially integrated into every household computer system. Any resident of the city can opt to have Hugo serve as computer operating system, CommCore connection, entertainment center, and financial service. Indeed, Hugo's subroutines tend to

adapt themselves to each user, presenting a friendly, helpful personality. Many Dyfedd residents have come to think of Hugo as a living person.

One aspect of Hugo's operation is its integration into the city's security systems. Dyfedd has thousands of remote pick-ups placed at strategic locations around the city. Hugo monitors all of these for safety and security purposes. Meanwhile, the computer operates hundreds of semi-independent robots, which work as maintenance robots, trash collectors, and security drones.

Naturally, there are many fail-safes designed to protect both Hugo and the city's residents. Hugo's hardware cores are located in three different places in the city, with a schedule of regular backups and maintenance designed to prevent the computer's failure. All of the system's controls are well protected by extensive physical security, and the software is protected by the best anti-intrusion technology available. Meanwhile, most sensitive systems controlled by Hugo have manual overrides, allowing human intervention in the case of a disastrous computer error.

Dyfedd's economy is based on the city's extensive network of research and development laboratories. Lavender Organics is famous for its innovative genetic and computer technologies. Dyfedd exists as a base for further Lavender Organics innovation. It hosts some of the best genetic therapy and body-sculpting clinics to be found anywhere; the city is the location of choice for most forms of physical modification. Dyfedd is also the foremost center for computer research and software engineering on Poseidon.

The city also gains income by leasing out its lab facilities and expert technicians to other firms and private institutions. The Haven Institute of Science and Technology has come to Dyfedd to establish the finest oceanographic research station on either Poseidon or Earth. This station hosts over a hundred scientists and technicians, and is one of the largest local employers of natives. GEO interests on Dyfedd include the most advanced Justice Commission forensics lab on the planet, along with a xenosilicates research center. Rumor has it that the GEO is operating a secret research center studying the aborigines, and may also be using Lavender Organics labs to develop genetically-enhanced "super soldiers."

Perdition

On Westcape's southern coast, there is a broad coastal plain where Hell's Basin meets the Westcape Channel. This region is well protected from cyclonic storms, and rarely suffers serious damage even at the height of storm season. It is here that the township of Perdition was established, sometime in the 2120s.

Perdition was founded by a member of the original Athena Project colony. Louis Nanpei was a distinctive character, an adventurer originally from Micronesia on Earth. After the Abandonment, Nanpei left Haven in order to spend years wandering. Local legend has it that he was often forced to flee various settlements just ahead of jealous husbands – but he was essentially a heroic figure, a man who pitted himself against Poseidon, and traveled for thousands of miles across the planet all alone.

Lavender Organics

Lavender Organics was originally founded in Wales, as a relatively minor biotechnology firm specializing in transform viruses. One of the company's earliest products was a virus designed to enhance human muscular strength – a product that was of interest to many around the world, including national military establishments and the sports industry. A long series of inexpensive consumer biomods followed, making Lavender a significant player in the biotech market.

Lavender Organics did not come to greater prominence for some time. Eventually, the company hit upon its true niche: the organic computer industry. Some years before the Blight, Lavender Organics became the world's leading producer of DNA-based information storage systems, neural interfaces, and intelligence-enhancement implants. The company was not directly involved in the struggle against the Blight – but the crisis years required clear, sharp thought from millions of people. Lavender Organics found its product line in considerable demand, allowing it to (barely) make the jump to Incorporate status.

In 2107, Lavender closed its office in Cardiff and established an Incorporate city-state on the southern coast of Australia. The location was carefully chosen. Australia had a well-educated population with a tradition of scientific research, but the government was collapsing before the Blight. Lavender had long had operations and market presence throughout Southeast Asia and Oceania. The new city-state was a natural outgrowth of the situation, and gathered popular support almost at once.

Today, Lavender Organics continues to lead the world in various forms of organic computer technology. In particular, it is performing cutting-edge research into true artificial intelligence. The company also maintains a very profitable chain of biomod clinics across Earth and in the colonies. Relations with the GEO, the Australian government, and other Incorporate states are generally good. Meanwhile, the mass media tends to treat Lavender Organics as an example of a "good" Incorporate state.

Nanpei's own writings claim that he made landfall on the south coast of Westcape in 2124. He cleared land, explored the island, and was the first man to discover water opals in Hell's Basin. By the time a band of actual colonists arrived from the Haven Cluster a few years later, Nanpei was so clearly the expert on local conditions that he was soon named headman of the village. He led Perdition for over 40 years, finally vanishing at sea as an old man on one last adventure.

Recontact had almost no effect on Perdition for many years. In the late 2180s, the township became a popular destination for natives fleeing from the influx of newcomers closer to Haven. Perdition soon became one of the largest native settlements on the planet, with over 8,000 inhabitants. Meanwhile, as newcomer colonists began to approach Westcape, the natives of Perdition found that they could trade water opals for useful goods. Up to that point, they had simply gathered a few opals here and there as trinkets. Now, many of

them abandoned the drudgery of fishing and farming to stake out mining claims and begin to harvest opals in earnest.

As the opal trade expanded, so did Perdition, until finally newcomers began to settle in the township itself. Tension between the two populations grew steadily. Then, in 2196, Hanover Industries registered a mining claim to the majority of Hell's Basin. In the past three years, the Incorporate state has moved very aggressively into the region. With no significant GEO law enforcement in the region, Hanover's agents have been able to use intimidation and force to toss most of the native miners off their claims. In Perdition, the result has been a flood of refugees, social unrest, and vigilante violence on all sides.

At present, the population of Perdition township is estimated at about 20,000. Natives make up about 9,000 of this, newcomers the rest. Most of the newcomers are independents not associated with Hanover Industries, although the Incorporate state maintains offices in the town and is bringing in more staff every month.

Perdition's government has always been rather informal. The native population is led by its headman, Bernardo Oliveira, a descendant of Louis Nanpei and the most respected man in the township. Oliveira has been away from the township for several months, however, so leadership of the native community is in the hands of a council of elders. The newcomer "community" effectively has no government – various well-armed strongmen run things using rough consensus or intimidation, as appropriate. The GEO has considered establishing its own law-enforcement presence in the township, but so far the nearest Marshals are stationed in the Zion Islands and are unaware of the seriousness of the situation. Meanwhile, Hanover Industries appears likely to attempt a political takeover of the township in the near future.

Once a rough but peaceful native village, Perdition has become a squalid mining town. With most of the independent miners squeezed out of business, the town is now almost completely dependent on the money brought in by Hanover Industries workers. Several major Hanover facilities have been built in the area; the workers stationed there often come to Perdition to carouse and spend their scrip.

Zion Islands

Visiting Kingston is like stepping back in time, although it's hard to say exactly what era you've ended up in. The spaceport is modern. The architecture reminds me of 19th-century Venice. The people are as diverse as you would have found in 20th-century London or New York. The local politics are positively medieval. And on the streets, the most popular music style seems to be, of all things, reggae.

– Lavender Organics manager Ian MacDonald, personal communication, 2198

Between the Haven Cluster and remote Westcape, there is a dense island cluster known as the Zion Islands. There are 30 major islands in the group, along with hundreds of islets and atolls. Most of the major islands form a circle around the shallow sea called Irie Bay. All of these islands are volcanic in origin, although there are few active peaks in the region.

The Westcape War

Although no news of it has reached the rest of the archipelago, there is in fact a brushfire war already in progress on Westcape, and it promises to be a very nasty affair.

For some time, Hanover Industries has been buying out claims and establishing its own facilities all across the Hell's Basin region. In the past year, this landgrab moved onto a new level, with Hanover Security Service teams launching violent attacks on the independent miners that remained. Miners were intimidated into abandoning their claims; those who resisted were murdered. Meanwhile, the other native communities around Hell's Basin and in the surrounding coastal plain were raided, the inhabitants forced to flee their homes and move to Perdition as refugees.

The Hanover strategy is simple. It already has a legal claim to the mining operations once run by natives. It is building massive new mining facilities, designed to strip-mine the mineral wealth of Westcape. If it can parlay this position into de facto control of the entire island, it stands to gain a very large stake on Poseidon against the day when it must abandon its territory on Earth. The strategy of intimidation and murder was designed to crush the natives' will to resist the landgrab. Unfortunately, it appears to have backfired.

Several months ago, headman Oliveira of Perdition realized that his people were engaged in a fight for their homes and way of life. He gathered as much of the town's financial resources as he could, traveled to Dyfedd, and purchased weapons from the Gorchoff Family criminal syndicate. Returning home, he recruited young natives to form a cadre for a guerrilla army, leading them into the hills to begin training.

The native guerrillas have no chance at victory in open battle. Instead, they move secretly across well-known terrain, going into hiding with the aid of sympathetic colonists, attacking Hanover operations with hit-and-run raids. Unfortunately, the Incorporate state has elite security forces with the best modern weapons and training. One mistake could end the guerrilla war before it gets well under way.

Of course, the guerrillas do have time on their side. Hanover's landgrab must move quickly or it is likely to fail. If word of the war gets out to the rest of Poseidon, then the GEO will likely be motivated to act decisively against the Incorporate state. Hanover hopes to have the whole matter settled before the start of the next tourist season (during which visitors from Dyfedd often come to Perdition for some rough-and-ready fun).

As with much of the Pacifica Archipelago, the climate in the Zion Islands is tropical. Mean temperatures are very high, although there is a northeastern trade wind that sometimes moderates the heat and humidity. The islands in the northeast portion of the group get a great deal of rain, as much as 280 inches per year. To the south and west, rain is reduced and there are many clear days per year. The Zion Islands are subject to cyclonic storms throughout the year, although the shape and shallowness of Irie Bay make it a "storm trap" – only about a third of the storms that strike the island chain from the north make it across the bay intact.

Soon after the original settlement of the island group, many of the islanders became involved in the so-called New Rastafarian Movement. The Movement was loosely based on the Rastafarian religion of Earth, but the NRM claimed that Poseidon was the Promised Land, the "Zion" that the faithful had long awaited. This meant, of course, that Earth and its governments were Babylon, the land of exile and oppression. After the Abandonment, the NRM naturally led to strong anti-Earth sentiments that lasted for decades.

After Recontact, newcomers and modern supplies began to make their way into the Zion Islands. At first, the natives were mistrustful, fearing that the newcomers had come from Babylon to steal Poseidon away from them. Soon, however, some of the natives softened their attitudes, and began to welcome both the newcomers and their technical aid.

The Long John boom affected the Zion Islands much as it did other parts of Poseidon. A rush of newcomers arrived, led by Incorporate interests who were interested in building a base for exploitation of rich xenosilicate deposits in the surrounding oceans. The influx of settlement centered on Kingston, but smaller settlements elsewhere in the island group also saw a boom.

The NRM continues to be influential in the Zion Islands, and maintains political control of many settlements in the region. Extremist settlements were established and grew rapidly, drawing natives who had become dissatisfied with the flood of newcomers. On the other hand, many natives have grudgingly accepted the new contact with Earth. The moderate settlements have grown and prospered during the Long John boom, which has led even some of the NRM extremists to wonder why they resist change so fiercely.

Kingston

Kingston sits on the northeast coast of New Jamaica, one of the largest landmasses in the Zion Islands. Most of the town is actually situated out in the middle of Annotto Bay, a harbor which was originally full of natural quays and sandbars. The town was built atop these patches of dry land, many of which were reinforced and expanded to make room for new building. Kingston is full of bridges and catwalks, connecting the many isolated buildings that make up the town. Other buildings are scattered around the shore of Annotto Bay, pressing up against the lush coastal jungle on all sides.

Kingston was the first settlement in the Zion Islands. It was established by Quentin McDerrit, a botanist of Jamaican origin who had experienced an overwhelming spiritual awakening upon first arriving on Poseidon. He interpreted his experiences as "visions" that confirmed the Rastafarianism he had espoused in his youth.

Discovering some talent as a charismatic leader, McDerrit gathered a hundred colonists and voyaged to New Jamaica to establish Kingston in 2093. He spent the rest of his days as

KEY

- COLONIAL SETTLEMENT
- NATIVE SETTLEMENT
- INCORPORATE HOLDING
- GEO HOLDING

500 KILOMETERS

ZION ISLANDS

NEW JAMAICA

Pueblo

CARTAGENA

MOUNT BEACON

Bright Savannah

THE QUENN

Carapace

ZION RIVER

Spirit

Kingston

Fort Pacifica

PROMISED LAND

Zephyr

ROYAL

MORANT

SHINY TOP

Savoy

CAPE GARVEY

Mariner's Point

KING REEF

Pisces Bay

Marley

Stillwater

FREEDOM

EPIPHANY

IRIE BAY

BOA VISTA

Lucea

Heather's Point

McDERRIT

McDerriton

GRANT'S FLAT

PATCHWORK REEF

NAVAJO

Outpost

CARIBE REEF

Retreat

BARLAVENTO

Freeport

Pearl

BABYLON

Farnsworth

SOTAVENTO

New Fremantle

Port Royal

ISLA DEL SOL

DITHER

INCA

CUBA NUEVA

CHARITY

FAITH

ELY

Strand

ISLA DEL LUNA

Palestine

Saint Lago

HAMISH

COOK

SAFE HARBOR

AZTEC

POSEIDON ANTILLES

BRANAUGH

SERENDIPITY ATOLLS

NEW HAITI

Colville

ZION ISLANDS

NORTH

the leader of the colony, exploring the island chain and performing research on the local ecology. Others from Haven Cluster who were embittered by the Abandonment soon joined the original Kingston settlers. The town spent decades flourishing as a fishing community and center of religious innovation.

By Recontact, Kingston was a healthy town of over 4,000 citizens, one of the largest native settlements on Poseidon. News of the Blight and subsequent events did much to harden anti-Earth attitudes in Kingston. Although Recontact also brought badly needed modern goods, many citizens rejected the very idea of associating with Earth again. Over 1,000 people left Kingston over several years, founding radical settlements like Marley and St. Lago elsewhere in the island chain.

As newcomers flooded into Kingston – especially after the start of the Long John rush – tension between natives and newcomers surged. Kingston soon became the primary base for independent and Incorporate miners in the entire island chain. During this period, the NRM grew rapidly, transforming itself from a primarily religious group into a kind of secret society dedicated to social resistance.

In 2194, NRM leaders and local officials issued a declaration refusing to recognize the GEO's authority on Poseidon. The GEO responded with political and economic sanctions, but Kingston remained intransigent. The NRM controlled the city on the neighborhood level, and could manage fierce resistance against any attempt by the GEO to impose its own laws.

Today, Kingston continues to thrive despite GEO disapproval. In fact, the city has gathered quiet support from a number of Incorporate states, which favor the idea of a neutral city free of GEO control. The combination of strong native (and NRM) traditions with discreet Incorporate involvement have made Kingston's social and political situation unique on Poseidon.

At present, the population of Kingston is over 93,000. Of this, about 6,300 are natives, and the native community is actually thriving amid the swarm of newcomers. The natives mostly work in and around Annotto Bay, although a few own businesses such as craft shops and tour services. The newcomers make up the rest of the population, working in a bewildering variety of occupations. The city's anti-GEO stance has brought a great deal of investment from several Incorporate states. A substantial number of citizens immigrated to Kingston out of disapproval of GEO policies (or out of a desire to avoid GEO law).

Kingston is governed by an elected city council, which does most of its deliberation and decision-making in secret. The council is heavily influenced by the neighborhood-level NRM leaders, who have become quite adept at running a political "machine" to control elections. In the neighborhoods, NRM leaders are often more influential than the city council, collecting "protection fees" and enforcing a rough peace with their "posses." The GEO does maintain a small consulate in Kingston. Although the GEO does not recognize Kingston as independent, it has placed the city in "colonial protectorate" status, effectively keeping hands off while negotiations for a closer relationship proceed.

The Kingston economy depends on a variety of industrial and commercial interests. Timber processing, shipping, and fishing are all major employers. There is a booming business in mining equipment and other items supporting the Long John extraction industry. Kingston also has the second-largest spaceport on Poseidon, and handles a great deal of surface-to-orbit traffic. Gambling is another distinctive local business – there are a number of casinos, controlled by a mix of newcomer and NRM interests, which attract tourists from all over the Pacifica Archipelago.

New Fremantle

The Hydrospan company town New Fremantle is located on Sotavento Island, in the southern sector of the Zion Islands. One end of the settlement is anchored onshore. The rest is built on a series of platforms that extend three miles north and east, out into Irie Bay. Not all of the platforms are contiguous, and there are often wide spaces of open water between neighboring structures. Meanwhile, the edifices on top of each platform are balanced by extensive underwater structures, attached to the pilings that hold most of the platforms in place.

Hydrospan was involved with Poseidon long before Recontact; it provided many of the water vehicles used by the original Athena Project colonists. For some years after Recontact, the corporation's activities on Poseidon were decentralized. The Incorporate state established its company town in 2189, in order to serve as a base for corporate operations that were expending rapidly in the wake of the Long John boom. The main focus areas of the town were scientific research and marine habitat construction. Population growth has been extremely rapid ever since.

Hydrospan

Hydrospan is unique among the Incorporate states. It was founded in 2068 by a group of dolphin engineers, and was the first major corporation in history to be owned and operated by cetaceans. It quickly became a world leader in several fields, notably marine engineering and cetacean technology. In the process, it also became a haven for dolphins and orcas who wanted a chance at independence within human civilization.

During the Blight years, Hydrospan joined Lavender Organics (p. 118) in establishing an Incorporate city-state in Australia. The Hydrospan city-state at Perth is still an island of civilization in the vast Free Zone that covers most of western Australia. The core of the city-state is the Fremantle EcoDomes, a huge marine habitat that houses the largest concentration of cetaceans on Earth.

Hydrospan has very good relations with many other major powers. It has always cultivated a close relationship with the GEO on both worlds. It has (naturally) been a strong supporter of cetacean rights. On Poseidon, the Incorporate state has also managed the unique feat of maintaining an amicable relationship with most of the native population. A number of factors have led to this unique relationship. Hydrospan had a superb reputation with the natives even before Recontact, since they had long cherished the quality workmanship in the company's watercraft. The fact that Hydrospan is still dominated by cetaceans also tends to earn native respect. Finally, the Incorporate state is a strong advocate of both environmental protection and of natives' rights.

Hydrospan also has a unique political system. The corporation is wholly employee owned. Shares in Hydrospan are granted according to seniority and merit, and cannot be sold or passed on to an heir. When a citizen dies or leaves the company, his shares are purchased by the cooperative and redistributed. Corporate profits are also distributed among the employee-shareholders. Meanwhile, both the government of the Incorporate city-state and the corporate hierarchy of Hydrospan are strict meritocracies. Promotion comes only through adherence to the company's core values and the production of sound results. In consequence, Hydrospan probably has the most effective political and corporate leadership of any Incorporate state.
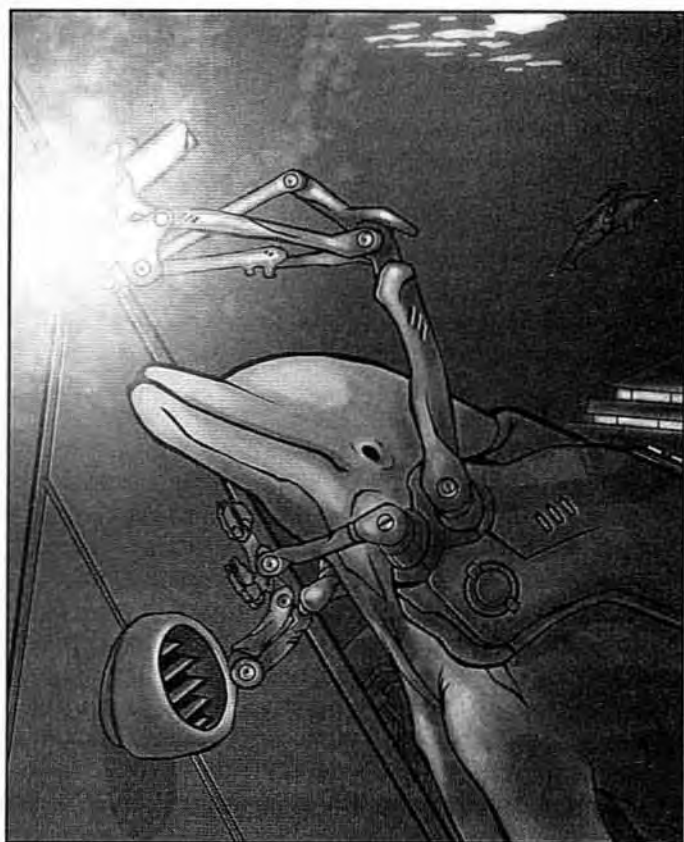
New Fremantle's current population is about 19,000. Over 87% of the inhabitants are employees of Hydrospan. The rest are contract workers, GEO scientists, prospectors, and private researchers. New Fremantle is unusual for the prevalence of cetacean citizens – there are more cetaceans residing in the company town than in any other settlement of comparable size. Over 2,300 dolphins and 90 orcas live in and around New Fremantle, taking up nearly half of the available habitat space and playing an important role in civic society.

The government of New Fremantle is ultimately in the "hands" of a dolphin named Steward, probably the most influential cetacean employee in any Incorporate state. Steward uses a democratic system to govern the town, allowing all Hydrospan shareholders to bring up and vote on issues of concern. Steward and his staff act as an executive branch, addressing any issues brought up by the shareholders. Since Hydrospan traditionally allows all of its employee-citizens to hold shares, this leads to a remarkably open form of participatory democracy. Hydrospan cooperates closely with the GEO, allowing almost complete access to its facilities and participating in many joint ventures with GEO agencies.

New Fremantle is the center of Hydrospan operations on Poseidon. Local industries include marine habitat construction, along with the manufacturing of underwater equipment, water vehicles, submersibles, and cetacean accessories. New Fremantle is a very prosperous settlement, and since all citizens hold Hydrospan shares, that prosperity is distributed fairly evenly. The settlement is widely known for its extensive telepresence facilities. Every apartment in town is a fully-equipped "smart house," allowing residents to work, enjoy recreation, and visit neighbors without ever leaving their homes.

Fort Pacifica

Fort Pacifica is located on the small island of Cartagena, about 200 kilometers northeast of Kingston. Cartagena is constantly subject to high winds, and frequently suffers cyclonic storms. As a result, scattered palm trees and scrub dominate the small island. Almost one-third of the island's surface is white, sandy beach.

Fort Pacifica is the primary GEO military base on the surface of Poseidon. Although Cartagena has little to recommend it otherwise, its location is strategically useful. Cartagena is very nearly in the geographic center of the Pacifica Archipelago. GEO forces stationed there can minimize their response time to any point in the planet's most densely populated regions. Meanwhile, the island is small and isolated, so the GEO can plan exercises and other operations away from possible spies. Finally, any assault on the island would have to cross many miles of open water, making the base very defensible.

The base was established in 2194 as part of a general buildup of GEO armed forces on Poseidon. Although it takes up most of Cartagena island, a small civilian settlement has sprung up in the unoccupied territory. The town (also named Fort Pacifica) exists primarily to siphon off the soldiers' paychecks. Despite the town's small size, it offers a virtual arcade, an open-air bazaar, bars, nightclubs, restaurants, and one rather popular brothel.

The military personnel stationed at Fort Pacifica consist of two companies of Peacekeeper Special Forces, one platoon of Marine Corps Heavy Cavalry, and two regiments of Peacekeeper regulars. Not all of these personnel are usually at the Fort, as small detachments are often rotated to other garrisons around Poseidon. There are usually between 3,500 and 4,000 soldiers on base at any given time. About 100 civilians work on the base as well, performing various support tasks. Meanwhile, the town outside the base has a population of about 900, almost all of whom are connected to businesses that cater to military personnel.

Bright Savanna

Hybrids (p. 18) have always had a difficult time in human society, generally meeting stronger prejudice and less respect even than cetaceans. Despite their heroic service on Earth

Soldiers are trained under difficult and stressful conditions. I understand the need for that. I don't understand Fort Pacifica.

I've been stationed here for a month. So far I've been in the stockade twice. That's the first time in my career, and I doubt I would have gotten more than a mild reprimand for the same mistakes in any other command. At that I've been lucky. I saw one private beaten half to death by his squadmates under a captain's watchful eye. Apparently he was "disrespectful to a superior officer" once too often.

Meanwhile it's up three times a night for unscheduled drills, SERE training for every grunt, field exercises that involve going through a cyclonic storm without any shelter. Every Peacekeeper on the island gets the kind of training that I would expect for Special Forces. I hate to think about the training the Special Forces must be getting.

General Gideon says that "tough times need tough men." All I know is that I didn't see discipline or training this rough even when I was a boot. For that matter, when I was a boot the training taught us to rely on our buddies. This stuff seems designed to teach us that our worst enemy might be wearing the same uniform we are.

– From the diary of Corporal Neal Rogers,
GEO Peacekeepers

during the Blight years, they found themselves out of place everywhere on the homeworld. This situation was partially resolved after Recontact, when the GEO offered several hundred hybrids the opportunity to settle on Poseidon.

A hybrid community led by a Silva named Geronimo Pacheco established Bright Savanna in 2191. The compound occupies about 40 square miles in the grassy foothills of New Jamaica's western mountains. Although the land is only marginally arable, the hybrids seem to prefer this location since it reminds them of their original homelands in Africa.

The GEO has supported the Bright Savanna colony heavily, providing a variety of cutting-edge equipment and construction supplies. Despite this support, life in the colony can be difficult. The land is difficult to farm, fresh water is in short supply, and the region is also home to a variety of fierce predators. Seasonal wildfires and flash floods are also a constant concern.

The rigors of life in Bright Savanna (and the resentment of nearby native and newcomer communities) have bound the hybrid community closely together. Geronimo Pacheco remains the undisputed leader of the colony, listening to a council of elders but making his own decisions. Despite his position, Pacheco is no autocrat – he simply rules because of the unforced respect the other members of the community hold for him. In recent years, the GEO has been applying gentle pressure to encourage a more formal government, with a written charter and elections. Pacheco is willing to abide by this requirement, and is looking forward to "retirement" once he can be confident that the community's survival is assured.

POSEIDON SPACE

Poseidon is not the only inhabited body in the Serpens system. There is an extensive set of colonies in the Serpentis Belt, as well as small stations on Poseidon's two moons (see Chapter 4 for details). The GEO maintains a station (WH-2) near the Serpens end of the wormhole. Meanwhile, there are several platforms in orbit around Poseidon itself, the most prominent of these being Prosperity Station.

Prosperity Station

In the early 2190s, a small asteroid was towed from the Serpentis Belt and placed into a polar orbit around Poseidon. The interior of the asteroid was excavated to form industrial, spaceport, and residential facilities. The first sectors of the new station were completed in 2195, and the complex was christened Prosperity Station. The new station soon became the primary GEO base off Poseidon itself.

Prosperity Station is built into an oblong asteroid, which began its existence about 3,000 feet in length and averaging about 1,300 feet in diameter. The inhabited volume inside the asteroid is divided into concentric layers, or levels, each about 32 feet deep and separated by a thickness of solid rock. Corridors and access tunnels connect the levels. At present, the excavated portions of the asteroid take up about 65% of its length.

Prosperity Station spins around its long axis, giving its inhabitants the illusion of gravity. The outer level has the highest apparent gravity – but this is only 0.25 G, so even this layer is uncomfortable for those unaccustomed to low-gravity environments. The inner layers are given over to various pieces of equipment and automated installations, notably the fusion core, the life support plants, docking bays, and several low-gravity research labs and manufacturing facilities. The outer layers are allocated to residential blocks. Meanwhile, there are a few support structures which extend outward from the original surface of the asteroid, allowing pods to be attached at various points for up to full Earth-normal gravity.

The permanent population of Prosperity Station is about 8,000, including both civilian and military personnel. However, the station serves as the primary transfer point to and from Poseidon. Hence there are usually thousands of transients on board at any given time, and the station's population actually averages about 20,000. When a large colonial transport arrives in orbit, the station's population can spike to several times that number. The inhabitants of the station are incredibly diverse, coming from every culture on Earth as well as Luna, Mars, the Belt, and Poseidon.

Prosperity Station is a GEO preserve. The ranking government official onboard the station is John Bishop, the Colonial Administrator. All of the GEO High Commissions also maintain offices on board, but the Office of Colonial Affairs has the most extensive suites. The OCA maintains facilities for arriving and departing passengers, especially the medical bays in which immigrants spend their two weeks recovering from coldsleep. OCA also oversees customs and immigration, and takes part in almost all administrative decisions involving Poseidon.

The station houses very little manufacturing or commercial activity, most of its cubage being given over to official GEO functions. Entrepreneurs have begun to take advantage of the flood of visitors moving through the station. Their activities have no official sanction and can be hard to find, but a determined visitor can probably locate all kinds of privately offered services.

Dundalk Shipbuilding

Dundalk Shipbuilding began its existence as a third-tier Irish shipyard, turning out a few ocean-going cargo ships each year, barely staying ahead of bankruptcy. The company's fortunes turned around when a Dundalk engineer submitted a design for a two-man orbital construction pod to NASA. The design was innovative, and won out over its competitors (many of them from big, established aerospace firms) on safety and efficiency. From that point on, Dundalk's business shifted to the construction of spacecraft and orbital construction equipment.

In 2080, the company won the primary contract for the construction of the UNSS *Cousteau*, the colony ship that would transport the initial batch of Athena Project colonists to Poseidon. As a result, it was in a position to expand its operations throughout the Solar system, investing the cash it had earned on the Athena Project on a space transportation infrastructure. By the time the Blight struck, the company was one of the wealthiest in the world.

In 2100, the GEO ended the long-standing political turmoil in Ireland by creating a unified Irish state as a GEO Protectorate. The new government soon asked Dundalk Shipbuilding to form a city-state in Belfast to secure Northern Ireland from sectarian violence. Dundalk was effective in this role, although its staunchly anti-British stance did little to resolve the situation peacefully.

Today, Dundalk Shipbuilding remains a major player in the space industry. It is second only to Atlas Materials in the orbital and spacecraft construction industries, and it is the largest operator of transport craft between the Solar and Serpens systems.

Although Dundalk does not maintain a company town on Poseidon's surface, it is very active on the colony world. Dundalk operates Colonial Station in Poseidon orbit, as a supply and maintenance depot for its interstellar transport fleet, and also as its primary manufacturing facility for Poseidon itself. The company provides a variety of ocean-going and submersible craft for the colonial economy, as well as deep-sea stations and surface mining platforms.

Joachim remembered dying.

There had been a storm coming up, and any sane pilot would have refused to fly, but he had needed the money. 10,000 scrip to carry a civilian specialist out to Maui? That would pay the bills and keep the vultures away from Joachim and his business for another few weeks. No matter to him that someone was truly desperate to get this particular specialist somewhere, and willing to pay several times the going rate.

The civilian specialist was a petite Asian woman, attractive but cold. Joachim made a half-hearted attempt at a pass, got no response, and then forgot about her for the rest of the trip. One more cargo run.

Then the storm blew up. He offered to turn around, but she would have none of it. He assured her that he could fly through the teeth of the storm. It wasn't even a real cyclonic, just an ordinary tropical storm like hundreds that passed every year.

He might have remembered that flying through even a small storm is a matter of luck. A combination of freak lightning and sudden vicious wind shear pushed the VTOL out of control. The on-board computer got confused, throwing the little plane at the water until Joachim turned it off entirely. He tried to pull out, failed, tried to ditch neatly, failed again. Water, at over 200 miles per hour, might as well be a solid wall.

Somehow Joachim retained consciousness for a few moments, long enough to realize that his body was shattered, that he was starting to breathe seawater. He never found out what happened to the specialist. Joachim wondered if his life

would flash before his eyes. It didn't. There was only increasing darkness, cold, and a sense of waste.

Then, tentacles in the dark. Something asked him a wordless question. Helpless, he agreed.

When Joachim awoke, he felt fine, and he remembered dying.

It took him a while to get used to his new body. Eventually he was able to fly again, skimming over the ocean abysses on his new wings, sensing the flavor of the water all around him with senses he could not name. Once he saw the wreck of his VTOL, sitting on the ocean bottom, a well-picked skeleton in the pilot's seat. It didn't worry him, just as nothing from his former life worried him any longer. There were more important things to do now, and all the time in the universe to be about them.

There is plenty of evidence that something strange is happening on Poseidon, even if most of the planet's inhabitants are too busy with their human concerns to notice. There are no strange alien ruins, no mysterious signals announcing themselves to the world – but there *is* intelligence, present on Poseidon long before the *Cousteau* landers touched down at Haven for the first time.

This chapter discusses some of the mysteries of Poseidon for the GM's use. It is *strongly* suggested that players avoid reading what follows (or that GMs make significant alterations to keep their players guessing). Interaction with alien mysteries is one of the basic premises of the *Blue Planet* setting.

THE ABORIGINES

Poseidon's indigenous intelligent life forms, the aborigines, are living artifacts that have survived from the original terraforming of Poseidon. Although they resemble ordinary deep-sea animals, they are quite intelligent and have a number of capabilities that go beyond anything human technology can match. Humans rarely see them unless they wish to be seen (or unless they are defending their facilities or activities). However, they often have a significant effect on events from behind the scenes.

Physiology

Aborigines vaguely resemble the manta rays of Earth. The physical core flares into a wide, flattened body dominated by two muscular fins, very similar to a manta ray's "wings." These fins are the primary organs of locomotion, powerful enough to give the aborigine great speed and agility in the water. A number of tentacle-like organs trail from the rear of an aborigine's ventral surface. The most startling feature of an aborigine is its lack of any obvious maw or gullet – unlike a manta ray, an aborigine has no large opening through which it can ingest food. Aborigines also lack obvious eyes or other sensory organs, although they do possess visual and auditory senses of very high sensitivity and discrimination.

The aborigine body possesses a network of muscular ducts that can take in or dispel seawater. The aborigine has very fine control of these ducts, which act as a hydrostatic "skeleton" when filled with pressurized water. This gives the species great control over its body shape, along with unexpected strength and flexibility.

Although aborigines are almost always spotted in deep water, they are actually quite capable of moving about on dry land for brief periods. By maintaining high pressure within their hydrostatic ducts, they can gather enough support to move around out of the water, the largest of their tentacles acting as multiple legs. When out of water, they remain quick and agile, and can climb or move through tight spaces with ease.

The internal structure of the aborigine's body is highly decentralized. Both the circulatory system (using seawater rather than a blood-analogue) and the nervous system are highly redundant and lacking in any critical central nodes. An aborigine has no single "heart" or "brain" that might invite fatal injury. Meanwhile, an aborigine has pockets of tissue connected to the open circulatory system, which contain highly versatile glands. These organs of chemical synthesis are the key to the aborigine's communication system, and also support the ability to control associated nanotech symbionts.

Aborigines do not ingest nutrients by consuming other living things, as do most animals. Instead, most of their surface tissues contain pigments similar to chlorophyll, permitting them to convert sunlight directly into energy-rich compounds. This process meets most of the aborigine's metabolic needs, although for maximum efficiency it requires long basking naps. Most chance encounters between humans and aborigines take place during these basking periods, when the aborigine is less wary.

Like some terrestrial fishes, aborigines are able to generate powerful electrical fields as a side effect of muscular activity. These fields tie in to a powerful electrical sense, by which the aborigine can detect changes in its own field as well as the fields produced by other objects. This sense is a powerful navigational aid in dark or murky waters. It also plays an important role in the aborigine communication system, as one aborigine can modulate its electrical fields to carry information to another. Meanwhile, an aborigine can also build up a powerful electrical charge in a specialized internal organ, discharging the accumulated power in a defensive jolt.

One of the aborigines' most powerful abilities is their influence over other living species. Their internal chemical synthesis allows them to produce a tremendous variety of specialized molecules. These can be used to communicate with, heal, poison, or even influence the mental activity of other organisms. Almost all species on Poseidon – including the interlopers from Earth – are subject to the effects of an aborigine's internal "drug factories."

The Creators

The aborigines of Poseidon are not the products of natural evolution. They are biological artifacts, produced by enigmatic entities known as the Creators. The Creators were a species or a civilization that wandered the galaxy eons ago, exploring the stars long before human beings came into existence. Evidence of their activities remains on many worlds all across the galaxy.

Little is known about the Creator civilization, but it appears that the Creators were driven by an urge to foster life and intelligence throughout the galaxy. They constructed wormholes between promising star systems, visiting barren planets and terraforming them, planting the seeds of rich ecosystems in their wake. Carefully, they tampered with ongoing evolutionary processes, encouraging the rise of sentient life.

Creator technology was based on control of matter and energy at very small scales. They were masters of nanotechnology, able to construct tools and artifacts from the molecular level on up. They were also masters of biotechnology, able to manipulate the genetic codes of life at a very sophisticated level. Using these technologies, they were able to build new bodies for themselves – living, sentient machines in which they could explore the million worlds of their wandering. When they moved on, they could leave these machines behind, to live independently and continue to serve the Creators' cultural imperatives.

On Poseidon, as on many other worlds, the Creators built a species of artificial life. The aborigines were left behind to serve as caretakers of the continuing terraforming process on Poseidon. They have an ingrained desire to maintain the ecosystems constructed by the Creators – a desire that brings them into conflict with the expanding activities of the human colonists.

Castes

Aborigines do not use internal genetic codes or sexual reproduction to ensure evolutionary adaptability. Instead, aborigines have a collection of interdependent castes, rather like those exhibited by certain "social" insects on Earth. Reproduction is a process by which a member of the breeder caste *manufactures* new individuals as needed.

Breeders

A breeder is several times larger than a member of any other caste, with a long, awkwardly rounded body. They are sluggish swimmers, not designed for fast movement or long journeys. They spend almost all their time in the nursery crèche, where they use their tentacles to move about and hold position against any current.

A breeder's bulbous form contains up to six hollow pockets, lined with specialized glandular and nervous tissue. In these pockets, the assembler nanites that perform the actual manufacture of new aborigines perform their work. The raw materials for this manufacture are produced by the breeder from stores inside its own body. A new aborigine is built up molecule by molecule over a period of a few days. Once the new individual is complete, its neural sacs are filled with copies of the breeder's memory templates, giving it the memories and experiences of countless previous lives.

There are very few breeders in existence . . . fewer than a hundred individuals scattered around Poseidon. They usually choose well-protected locations in isolated island clusters, where local conditions are favorable for reproduction. Before the human arrival on Poseidon, breeders were rarely active, since aborigines are unaging and fatal accidents were rare. Today, there has been a dramatic increase in breeder activity. Violent confrontations with humans have meant that an unusual number of aborigines have required replacement. Even nonviolent human activity presents a challenge to aborigine culture, calling for the construction of more (and more diverse) individuals in response.

Technicians

The technician caste is the smallest in physical size, with particularly dextrous tentacles and very sharp electrochemical senses. They are better able than the other castes to move in the tight confines of a Creator cache (p. 132) or inside a working machine. They have fine control over Creator nanotech, and usually carry their own swarms of nanites.

Technicians are the most common caste on Poseidon, and the most often encountered by human beings. They roam the planet's surface, looking for malfunctions in Creator technology, working on maintenance or construction projects, and pursuing long-term terraforming goals.

Specialists

Not all aborigines fall into the main castes. When unusual tasks arise, the breeders are able to construct specialists to attend to them. Specialists come in a wide range of sizes and shapes, with diverse features and capabilities unmatched by the other castes. Examples include assistants for breeders or technicians, forms adapted to travel and explore dry land, and even observers sent to spy on human activities.

Specialists are rarely encountered. Any given specialist form is normally manufactured only in small numbers. Within aborigine society, they form a loose caste of their own.

Herders

Herders are of medium size, larger than technicians and most specialists, smaller than breeders or protectors. They are highly streamlined, and can swim faster than any other caste. Their internal chemical synthesis is unusually powerful, producing a wider range of pheromones and neurochemicals than any other caste can manage.

While technicians are responsible for maintaining aborigine technology, herders are responsible for the management of other species of animal or plant life on Poseidon. They monitor local ecologies, keep track of migration patterns, and track disease vectors. They establish and maintain mangrove forests, kelp beds, and coral reefs.

Aside from technicians, herders are the aborigines most often seen by humans. Encounters occur most often when humans or cetaceans interact with large herds or schools of animal life. One or more members of the herder caste often accompany such herds.

Protectors are relatively uncommon, but with the rise in conflicts with humanity, the caste is becoming more important. The aboriginal society is considering producing more protectors, and using them in direct confrontations with human interlopers.

Protectors

Protectors are designed to shield breeders or technicians from attack by nonsentient predators. They are larger than any caste except the breeders. Protectors are characterized by thick muscles which give them great speed and strength; their tentacles are unusually thick and strong, and several of them are tipped by sharp spikes. Their internal chemical synthesis is geared toward the production of poisons. Their ability to produce defensive electrical shocks is also more powerful than that of any other caste.

Protectors are relatively uncommon, but with the rise in conflicts with humanity, the caste is becoming more important. The aboriginal society is considering producing more protectors, and using them in direct confrontations with human interlopers.

Aborigines as Animals

Aborigines make poor characters. They are supposed to be mysterious and unpredictable, forces of nature rather than PCs or even NPCs. In any case, even a small aborigine technician would probably be at least a 300-point character; a protector would likely be 600 points or more!

In *GURPS Blue Planet,* the aborigines most likely to be encountered by outsiders are treated (for rules purposes) as animals. In combat and other action, they will usually not try to communicate and will either run or fight as needed. If adventurers somehow interact with aborigines on a more intimate level, then the GM shouldn't try to reduce them to dry character attributes and skill lists.

Note that most aborigines are far more intelligent than the human average, but this intelligence takes a different direction than the human norm. Aborigines will behave with extreme cunning in combat and can be expected to be very hard to surprise.

Herder Caste

ST: 15-17   Speed/Dodge: 5/6#   Size: 2
DX: 12   PD/DR: 0/0   Weight: 200 lbs.
IQ: 18   Damage: 2d cr
HT: 16   Reach: C,1

Herder aborigines are most often found following schools of fish or other native sea life. They are most often encountered by human fishermen or hunting cetaceans. A herder aborigine can deliver a bioelectric shock, doing 1d damage (this costs the aborigine 2 fatigue). The shock usually is nonlethal, but can be lethal on a critical success. Herders move at 2 on land.

Protector Caste

ST: 18-22   Speed/Dodge: 4/6#   Size: 3
DX: 12   PD/DR: 0/0   Weight: 300 lbs.
IQ: 16   Damage: 3d-1 cut
HT: 16/20-24   Reach: C,1

Protectors are rarely encountered unless a human or cetacean is getting too close to a place or a facility that the aborigines don't want outsiders to see. A protector's bioelectric shock is similar to that of a herder. On a hit, a protector can inject its target with a variety of poisons or drugs. One of these is lethal – 10 seconds after taking the wound, the target must make a HT roll at -3 or take 3d damage. Another toxin has an anesthetic effect, with similar strength but doing fatigue rather than lethal damage. Protectors move at 1 on land.

Technician Caste

ST: 13-15   Speed/Dodge: 4/6#   Size: 2
DX: 12   PD/DR: 0/0   Weight: 150 lbs.
IQ: 19   Damage: 2d cr
HT: 16   Reach: C,1

Technicians are rarely encountered except in the vicinity of aborigine research sites or other Creator caches. A technician has the same bioelectric shock as a herder or protector. Technicians move at 1 on land.

Aborigines and Humans

The racial purpose of the aborigines is to protect and maintain the ecology of Poseidon. When humans first arrived on the planet, they did little to harm Poseidon's native life – especially after the Abandonment and the deliberate assumption of a primitivist lifestyle. The aborigines simply ignored the human colonists, or worked them into Poseidon's maintained ecosystem.

After Recontact, however, things changed. Newcomers began arriving in greater and greater numbers, setting up heavy industry and moving to exploit Poseidon's natural wealth. Since the Long John rush began, these trends have accelerated greatly. Human beings now pose a threat to the entire Poseidon project.

The aboriginal response has been mixed. The aboriginal society was not designed to be *too* adaptable, and the arrival of humanity has presented challenges far outside the usual envelope. The aborigines might have used their powerful nanotechnology to destroy humanity entirely, but something restrains them – the fact that humans have clearly been affected by the Creators too. This keeps the aborigines committed to a strategy of careful, discreet action – even though humans are casually destructive of Creator projects and the natural ecology.

Today, the aborigines are mounting a cautious but increasingly effective response to the human threat. They rarely intervene directly, given the imperative to keep the existence of Creator caches and technology secret. However, they are interested in studying human artifacts or specimens, especially if this study can be done without too much risk of exposure. A human, far away from possible help and caught alone by aborigines, may be subjected to a variety of experiments, from simple observation to subtle genetic surgery or invasive examination by nanite probes. Some humans have even been "downloaded," their memories and mental patterns recorded through a nanotechnological procedure, then transferred to a xenosilicate archive or to an aborigine body. This procedure destroys the human's brain, so the aborigines normally perform it only on humans who are dying or who have trespassed on a Creator cache.

Meanwhile, the aborigines have carefully contacted potential allies among the native population. They use neurochemical synthesis to communicate with humans almost on an empathic level. They can also use genetic and nanotechnological approaches to *change* their human allies in ways that make them more effective. The human allies can then act on the aborigines' behalf, allowing the aliens to remain hidden from humanity as a whole. This often has the effect of making the altered native communities more extreme in ideology and behavior. Some of the native communities that are most radical and most hostile to outsiders have been subjected to aborigine manipulation.

For their part, the various human factions on Poseidon have not yet managed to assemble all the clues necessary to understand the aborigines, their origins, or their capabilities.

Aside from the native groups which regularly interact with aborigines, most humans rarely even catch a glimpse of the "rays" and think of them as animals – clever and dangerous, perhaps, but not relevant to the business of squeezing profits out of Poseidon. Though some scientists theorize that the aborigines are intelligent, and possibly alien, they have difficulty finding anyone interested in funding their research. A few research teams have been attempting to formally study the aborigines, notably from the GEO and Lavender Organics. So far such studies have been fruitless at best, disastrous at worst.

ABORIGINE ACTIVITIES

The aborigines are not a passive mystery. They are engaged in a long-term plan in response to the human presence on Poseidon. This plan makes aborigine behavior unpredictable and increasingly enigmatic.

Goals

Even for the Creators, terraforming is not an easy process. It can take many thousands of years, and the results may or may not be stable. In any case, even a perfectly terraformed world is subject to random natural disaster. When the Creators have finished with their terraforming work on a given world, they usually leave it in the hands of caretakers.

On Poseidon, those caretakers are the aborigines.

Before the arrival of humanity, the aborigines were complete and fulfilled. The maintenance of Poseidon's ecosphere required very little work. The planet's living species had evolved a vast network of checks and balances, capable of adapting to most new circumstances as they occurred. All the aborigines needed to do was respond to natural disasters: earthquakes, volcanic eruptions, the occasional impact of asteroidal debris on the planet's surface. The aborigines watched the slow evolution of Poseidon's natural species, tweaking the process slightly every few thousand years. Otherwise, they spent their time on mental activities that would be incomprehensible to human beings.

Humans have lived on Poseidon for little more than a century. On the aboriginal scale of time, the human invasion has been like a lightning-fast plague, pervading Poseidon and threatening to smash ecosystems that have been millions of years in the building.

In response, the aborigines are mounting a rapid campaign of research and containment. In the short term, they strive to understand human beings, their culture, and their technology. A deeper understanding of human civilization will help the aborigines determine their best strategy for the long term – during which they will act to end the human threat to Poseidon's natural development. If this can be done by co-opting humanity, encouraging human beings to adapt to Poseidon instead of wrecking the planet, the aborigines will do so without a qualm. If it turns out that the human threat cannot be abated without destroying humanity, the aborigines will do that without a qualm as well.

Technology

Creator technology is characterized by its biological orientation. Most Creator machines and machine components are biological constructs which could be considered living. Most have some level of encoded intelligence, at least on the level of "instinct," which guides their proper function.

Nanotechnology

Creator technology is far more sophisticated than the simple "genetic engineering" that human civilization is capable of. From their biotech base, the Creators developed a truly mature nanotechnology. They were able to command matter at the most fine-grained levels, assembling almost any conceivable item one molecule or even one atom at a time. The basic tool of nanotechnology is the *assembler,* a pre-programmed molecular engine that can be used to perform a specific task. With a sufficient variety of assemblers on hand, one can perform any conceivable task of chemical synthesis, build large-scale artifacts to order, and so on. Similar molecular machines, called *disassemblers,* can destroy artifacts and recover their chemical components for other purposes.

The aborigines of Poseidon have access to the full range of Creator-designed assemblers (also called *nanites* by those rare humans who have studied nanotechnology). They have also been engineered to interact with their nanites through biological means. Aborigines possess sensory organs that are finely attuned to their nanotechnology, allowing them to monitor the progress of any nanotech process at will. They also have delicate organs of chemical synthesis, allowing them complete control of the assemblers' activities.

Although human scientists have speculated about the possibilities of nanotechnology for centuries, they have yet to develop any more than a very crude grasp of its principles. This is perhaps fortunate – human civilization might not survive the sheer power of a mature nanotechnology. In contrast, the aborigines were *designed* to live with the power of nanotechnology. Thus far, they have used their tools only in accordance with the Creators' wishes. Whether they can continue to remain so focused, even as humanity destroys the ancient balance of Poseidon, remains to be seen.

Biomechanical Drones

When working on a super-molecular scale, the Creators applied a variety of artificial biological tools: the biomechanical drones.

Drones varied greatly in size and design. Most were simple tools, unquestionably alive but strictly limited in their range of action. These simple drones were most often applied to the most tedious or repetitive tasks. Other drones were not themselves sentient, but could receive a Creator's consciousness, allowing it to participate directly in the tasks at hand. Such drones operated rather like the mechanical robots more characteristic of human civilization, many of which can be controlled remotely by a human operator.

The most sophisticated drones were intelligent and, to some degree, sentient. Such drones could carry out complex tasks and operate independently. The epitome of this class of drone is the aborigine "species" itself. The aborigines (and other drones of similar sophistication) are fully sentient, capable of representing Creator civilization for millions of years without supervision.

Despite the variety in their design, Creator drones do share certain traits. They are living organisms, dependent on biological processes even if they possess inorganic mechanical or electronic components. They are highly mobile, able to crawl, walk, or swim; some can even fly. They are quick, agile, and unusually strong compared to natural animals of similar mass. Most have finely-engineered organs of manipulation (tentacles, grippers, feelers or hands). Most have very acute senses, usually including the ability to sense a wide range of radiation, vibrations, or chemical substances. Drones are well integrated into the rest of Creator technology, and in particular they are usually able to interact easily with Creator nanites.

Drones are usually powered by some combination of photosynthesis, chemosynthesis, and ingestion of external nutrients. Those drone types that need particularly dense energy sources are usually engineered to consume a special nutritive compound. This "food" is synthesized by specialized nanites from whatever organic matter is available. Pools or troughs of the substance are often found in active Creator facilities. It is both non-nutritious and mildly poisonous for naturally-evolved animals, especially Terran forms such as humans or cetaceans.

During the active phase of Poseidon's terraforming, there were thousands of specialized drone types in existence. Most of these have long since been disassembled, but they could be re-created by the aborigines at any time should they find it necessary.

Memory Rings

The aborigines have little use for language in the sense that humans or cetaceans use the term. Instead, they normally share their memories directly, encoding their experiences in complex chains of organic molecules. Aborigines that spend a great deal of time together often act as a single individual in many bodies, the result of shared memories and experience. Unfortunately, the aborigine population is both small and widely scattered, so this kind of intimate sharing is not always practical between dispersed groups. To meet this need, the aborigines use a sophisticated analog to written language: the memory ring.

A memory ring is an information storage device. Rings are all the same size and shape: a torus about 20 centimeters in outside diameter, with a 4-centimeter cross section. Each ring is black and metallic in appearance, with an oily sheen. Rings are activated and powered by the presence of an aborigine's bioelectric field (p. 126). Each ring contains a swarm of specialized nanites, which mediate the storage and transfer of information.

A memory ring can broadcast some of its stored information through visual and aural means. The most useful channel, however (the one with the highest "bandwidth"), is a direct link to the same organs of communication that aborigines use to share memories when in physical contact. An aborigine can accumulate its own memories and experiences within a ring, which can then be stored away or physically transferred to another aborigine for its own reference. The aborigines routinely use memory rings to "read" memories of events that may have happened in the very distant past or thousands of miles away.

Humans who discover a memory ring will find it difficult to read the contents. The ring would have to be surrounded by an electromagnetic field, strong enough to mimic an aborigine's bioelectric field. Subtle modulations in the field could be used to deliver coded "instructions" to the memory ring. If presented with the proper codes, the ring would emit hologram-like images and sounds. Since an aborigine's senses work differently from those of humans, the images and sounds would then have to be interpreted in a way that made sense to human observers. Similarly, a captured memory ring could be fooled into releasing information in biochemical format, although it would be *much* harder for human experimenters to interpret those results. The entire process would require vast amounts of trial and error, but success would eventually be assured; memory rings are very durable and have no way to self-destruct if they fall into unauthorized hands.

Repair Baths

Repair baths are quite common in certain Creator facilities, especially in template libraries (p. 132), in hibernation dormitories (p. 132), or in shelters occupied by breeder-caste aborigines. A repair bath is a tub or small chamber, containing rich nutrient solutions, assembler swarms, and various raw materials. Baths can be used to repair damaged drones, modify the capabilities of existing drones, or construct new drones from component parts.

The aborigines use repair baths not only for their drones, but also to repair and modify themselves as needed. Repair baths are becoming increasingly important to aboriginal projects involving the development of new drone designs, intended to respond to the human presence on Poseidon.

Raw Materials Depots

Raw materials depots are simple stockpiles, ready for use by Creator nanotechnology. They are usually found in machine farms (p. 132). Harvester nanites work on seawater or on mineral veins in the seafloor rock. They gather needed substances and transport them to the raw materials depot, where they are gathered into concentrated masses of pure elements or simple chemical compounds. Solids can form lumps or piles. Liquids, gases, or solids that react strongly with seawater are stored in pods of varying size, sealed behind diamond lattice hatches.

In places where actual manufacturing is still going on, the raw materials depots take on a riverine appearance, as billions of transport nanites convey the various raw elements to where they are needed. Metals and other substances appear to flow out of their piles or out of crevices in the rock, running together as they approach the site where builder nanites are working.

Smart Tools

Smart tools are a nanotech phenomenon, still in common use among the aborigines of today. A smart tool is a collection of preprogrammed structural nanites, usually no more than a few kilograms in mass. These nanites can lock themselves together to form the structure of a needed tool – and on command, they can also unlock and form a new shape. The transformation is quick, and is controlled using the electrical and chemical signals that every aborigine can generate. An aborigine can easily program new forms using the same electrochemical language.

Typical forms for a smart tool include lines, nets, pry bars, hammers, clamps, blades, or other simple hand tools. The structural nanites in a smart tool are themselves limited in versatility, so the tool cannot become a complex electronic device or instrument. Nevertheless, a smart tool can take on very complex physical shapes on command.

Terraforming Reactors

During the active phase of the Poseidon terraforming project, the Creators built hundreds of terraforming reactors on the planet's surface. Each reactor consisted of a tremendous swarm of trillions of nanites, along with a computer core and a network of xenosilicate templates. Each reactor operated across hundreds or thousands of square kilometers, performing some function in the terraforming of the planet. Some reactors modified geologic or hydrologic processes, some set up and extended nutrient cycles in the growing ecology, some worked to improve the soil, and still others worked to alter the balance of gases in Poseidon's atmosphere.

The stable ecosphere of present-day Poseidon is the result of the reactors' terraforming activities. Most of the reactors were abandoned millions of years ago, although a very few continue in operation at a low level in order to maintain the planet's ecosystem. When the Creators left Poseidon, many of the reactors in the planet's deep crust or on the ocean bottoms were shut down but left in place. It is the remnants of these reactors that supply the xenosilicate fueling the Long John rush.

Xenosilicate Templates

Xenosilicates are the primary data storage medium used by the Creators. Xenosilicate templates form the basis for all aborigine nanotechnology and genetic engineering. Xenosilicates control the operation of nanite swarms, just as DNA molecules control the operation of living cells. Data can be archived within the xenosilicate matrix as well.

Xenosilicate templates vary in form, but are usually small and light, about the size and shape of a natural pebble. They are most often found in template libraries (p. 132) and machine farms (p. 132), although they appear in other Creator caches as well. In particular, terraforming reactors (above) are full of xenosilicate templates of very high information density.

Facilities

Millions of years ago, the aborigines dismantled most of the Creator facilities on Poseidon, no longer needing them to maintain the planet's ecosystem. A few caches of Creator technology remained, however, scattered across the face of Poseidon in case of some future need. Human explorers may accidentally discover these caches – or they may be reactivated by the aborigines as they work to develop a response to the human presence.

Creator technology has advanced beyond standardization and interchangeable parts; every drone and every structure can be custom-built for one specific purpose. Also, the long stretch of time since the caches' construction means that not all of them are in perfect repair. Aborigine technicians are responsible for maintenance, but an isolated cache that is not often visited may well have some (or many) broken-down systems. GMs who wish to design Creator caches for exploration should feel free to let their imaginations run wild.

Most Creator caches are in the deep oceans, hidden in cave systems or sea-bottom trenches. A few are on dry land, usually buried deep underground, but sometimes simply hidden in out-of-the-way places. In either case, a cache is usually built into a cave system that has been carved out of bedrock by nanite disassemblers. The structure of a cache can vary widely. Some are warrens of narrow, randomly-directed passages. Others are open caverns, or honeycombs of identical cells, or simply deep pits in the rock. A few are even built as clearly artificial structures, usually through the command of various forms of engineered coral.

Nanotech and Long John

The presence of xenosilicates on Poseidon has driven most of the human colonization of the planet, and threatens to destroy the Creators' age-old experiment there. This is particularly ironic, given that Long John originated as an integral part of Creator technology.

Xenosilicates serve as a structural template for Creator nanotechnology. In a sense, xenosilicates are a specialized "feed stock" which permit Creator assemblers to work in a more flexible and powerful manner. The particular xenosilicates which humans have named "Long John" are those that were specifically designed to regulate biochemical reactions and genetic sequencing. It is these properties that have given human genetic science such a tremendous boost in recent years.

As it happens, the Creators' project on Poseidon has long since reached a mature stage. The planet's ecosystems are complete and self-sustaining. Still, the xenosilicates in general and Long John in particular are crucial to the aboriginal mission on Poseidon. Without them, the aborigines are concerned that they would no longer be able to maintain the planet's ecology (or repair the depredations of human activity). For this reason, even if human harvesting of Long John did no direct damage to the ecosystem, the aborigines would oppose the depletion of their most valuable resource.

Most caches are well-protected, with hidden entrance tunnels and hatches that are designed to mimic the surrounding rock. Hatches and doors are usually made out of structural nanites, blocks composed of trillions of molecular-scale machines designed to lock firmly together. Upon receiving the correct electromagnetic or chemical stimulus, the nanites will unlock, *flowing* around an entering object while maintaining a tight seal against the water or air outside.

Once inside a cache, a human visitor will probably find it to be dark and difficult to explore. Caches were designed for the aborigines with their special chemical and electromagnetic senses, and rarely have any artificial illumination. A few caches have organic pods attached to various surfaces, containing luminescent enzymes that give off a soft glow when stimulated. These lighting systems are among the least reliable examples of Creator technology, and may not work properly even if they are present.

Most submerged caches are water-filled, although here too there are exceptions – some caches protected equipment that was designed for work in the air or even in space, and so will maintain a dry environment. A water-filled cache will usually have currents of varying strength flowing through its chambers. These serve to assist aborigine movement, and also act as a transport system for nanites and their "feed stock" materials.

Each cache has its own power system to drive the work that was done within. Facilities on land or in shallow water often run on solar power, using collection arrays of high efficiency. Deep-water caches often have geothermal taps, sunk into the heat of Poseidon's deep crust. Other facilities used small fusion reactors, broadcast-power receivers, or even low-power "bioreactors" for various needs.

Machine Farms

A machine farm is a place where various forms of equipment are built. The term "farm" is entirely appropriate. Since Creator nanotechnology "grows" items from "seeds," the processes involved often seem more like agriculture than industrial manufacturing.

A machine farm is usually found in an open cavern, in the midst of mineral beds that are rich in certain raw materials. The cavern is not natural in origin. It was formed as nanite disassemblers attacked the local rock and extracted useful minerals, feeding them into reservoirs from which assembler nanites could draw as needed. As a result, the cavern's contours are usually irregular and highly rounded, with plenty of side passages that follow natural veins of mineral ore. The floor of the cavern is dotted with strange mineral deposits, again very rounded and almost fluid in shape.

Some farms are currently deserted, and exist only as strangely-shaped cavern formations. Others were interrupted in mid-construction. These farms can be full of half-finished equipment – strange machines and devices apparently *growing* from the floor, walls, and ceiling. Most of the items are only partially completed, but once in a great while the machine farm may have finished some product before being shut down, a device of enigmatic shape and unknown function.

Storage Caches

Storage caches are the most common Creator facilities still found on Poseidon, and are also the most widely variable in form and design. They can be found anywhere on the planet, even on dry land. Most of them are simple shelters, designed to keep the elements or invasive organisms away from their contents. Some are very small, while others are vast hangar-like spaces large enough to house starships. Some are unused and empty, or contain only unidentifiable pieces of debris. Others are in active use, visited by the aborigines on a regular basis, as they find themselves needing the equipment stored there in order to respond to human behavior.

Template Libraries

Every machine or biomechanical device used by the Creators has its own structural blueprint. These blueprints are stored as templates in xenosilicate lattices, ready for duplication by nanotech assemblers. A few Creator caches are specifically designed to be libraries where the xenosilicate templates for millions of designs are stored. Such caches are usually associated with machine farms, but a few of them exist in isolation.

Template libraries are fairly small caches, filled with storage pods made out of a sturdy resin-like substance. Each pod contains a quantity of pure xenosilicates, of unusual quality and organization. Even a small template library can provide enough pure Long John ore to make a healthy fortune in human terms – although if outsiders could learn to read the templates themselves, the information stored in them would be vastly more valuable.

Hibernation Dormitories

The aborigines of Poseidon are only the most sophisticated remaining example of Creator biotechnology. During the more active phases of the planet's terraforming process, the Creators used a tremendous variety of biomechanical drones (pp. 129-130). Most of these were disassembled or taken along when the Creators left Poseidon to the aborigines. Even so, many were placed in great hibernation dormitories, where swarms of nanites would maintain them indefinitely in case they were needed to respond to future events.

Hibernation dormitories vary in size, but they tend to be similar in design. A submerged network of tube-like tunnels is bored into the rock, each tunnel lined with cells of various sizes. Each cell is sealed by a thin hatch grown from the surrounding rock, and contains a single inmate, bathed in nutrient fluid rich in nanites. The cells can contain drones of any degree of sophistication, from the simplest of nonsentient biomachines all the way up to specimens as complex as the modern aborigines.

Research Sites

Since the arrival of humanity, the aborigines have begun a concerted effort to understand human technology and behavior. In pursuit of this study, they have built a number of research sites around the planet. Unlike the other Creator caches, the research sites are all quite recent, and

are specifically designed to hide the evidence of aborigine activity from human detection.

Research sites vary in size and shape. Some are large, hangar-like spaces built to contain large-scale human artifacts that have been recovered by the aborigines. Others are small caves. In either case, the cache contains specimens of human biology or technology, along with a dense swarm of nanites and a variety of biomechanical drones that have been revived to assist in the research. Research sites are often very well camouflaged, hidden underwater or under nanite-constructed stone or coral with a very natural appearance. Many underwater research sites are airtight, making access from the outside difficult.

Current Activities

The aborigines of the Pacifica Archipelago have experienced the most disruption due to human activity, and they have taken upon themselves most of the responsibility for planning a response. Although the aborigines share consciousness and presumably have an overall plan, the specifics of this plan are carried out by local populations using local resources. Further, the aborigines are mostly in an *experimental* mode, trying to discover more about humanity and the best way to deal with it. As a result, aboriginal activities vary from place to place.

Kraken

One aboriginal cache exists within the canyonland known as the Wall. Here, the local aborigines have used their nanotechnology to create soldiers in opposition to the human presence.

The aborigines of the Wall intended for their soldiers to meet human beings on their own terms. They therefore used the human genome as a basic template, modifying it to meet their requirements. The resulting organism was a biped, large, fast, tough, and seething with predatory instincts. Over seven feet in height, it had powerful limbs, a reptilian head, an iguana-like tail, and sharp teeth and claws. It had all the sensory awareness and system redundancy of its aborigine masters, making it very hard to surprise and even

harder to kill. Although these soldier drones were not truly sentient, they could execute complex instructions and use advanced technology.

Three of the drone prototypes were directed against the GenDiver installation at Kraken (p. 105). Over a three-month period, the drones killed more than 40 workers, forcing GenDiver management to close the facility. After Kraken was turned over to independent miners, the drones were called back to the Creator cache that built them. Unfortunately, one of the three somehow refused to respond to the withdrawal order. It remains in hiding in the area of Kraken, avoiding both humans and its aborigine masters, still extremely dangerous.

Keepsake

Another aborigine experiment in the Haven Cluster is centered on the small coral atoll known as Fable Island. A small fishing village, named Keepsake, was recently built there – but the inhabitants are neither natives nor newcomers. Instead, they are drone constructs created by the aborigines.

The inhabitants of Keepsake appear completely human at first glance. There are over 50 members of the village, going about their business in what appears to be a natural fashion. Upon closer examination, the picture begins to look subtly wrong. The docks and central fire pit show no signs of use. The houses are built in a typical native style, but they have no windows or open porches to let in the ocean breeze.

The citizens of Keepsake themselves appear strange. All are perfect physical specimens, but they all appear to be about the same age. There are no children playing, no elders resting in the shade. All of the villagers are of the same racial background. None of them have birthmarks, freckles, old scars or injuries. Various aspects of their anatomy (navels, ears, nipples) are almost uniform from individual to individual.

The Keepsakers are also evidence that the aborigines have much more difficulty modeling the human mind than the human body. The aborigines tried to replicate memories and personalities by implanting neural patterns recovered from various human beings who had been encountered over the years. Unfortunately, the process was far from perfect. Although the villagers claim to remember events and relationships stretching back to their birth, they seem strangely detached from these memories. They are socially inept, using few subtle behavior cues (and they will not understand those of visitors). They engage in sex at strange times, apparently on impulse. They have none of the sophisticated political structure usually found in native villages, although they do have a few leaders who rule through intimidation. Indeed, the citizens of Keepsake are all showing increasing signs of mental illness.

The Keepsake experiment is one piece of an overall aborigine strategy that involves the infiltration of human settlements. So far the experiment appears to be failing. The aborigines may next try to develop better ways of recovering personality information from human subjects. Success may allow the construction of more stable "golems," which could then be sent into the more crowded settlements of the Haven Cluster.

New Hawaii

Something strange is happening to the children in some native settlements in the New Hawaii group. For many years, some children have taken longer than expected to learn to talk, with a few never speaking at all. Recently, some babies have even been born with physical changes: lacking any hair, with a second row of gill slits under the arms, or with a row of eyespots down the back. In the affected villages, about one child in four exhibits strange behavior, while one in ten displays physical abnormalities.

The changes in these children are due to the aborigines, who are using xenosilicate templates from their Creator cache to tamper with the genetic makeup of the local humans. The experiment has been going on almost since the first arrival of humanity in the New Hawaii area – almost every native in the region carries some of the altered genetic markers by now.

The overall effect of the changes is to create humans who carry aboriginal DNA and can adapt to aborigine society. The children without obvious physical alterations are "first-stage" parahumans. These children are very receptive to the chemoempathic communication of the aborigines, and can receive messages without the confusion or fear that affects most humans. They also *think* somewhat like aborigines, making them less verbal than other children, but causing them to act with a strange unanimity. The births with obvious physical changes, the "second-stage" parahumans, share these abilities and have other aspects of aboriginal physiology as well.

Some of the native villages cherish these strange births, believing that Poseidon is actively changing the children and stripping away the stigma of Earthly origins. Others are more fearful, isolating or even killing the newborns who exhibit changes. Most of the altered births have been carefully hidden from outsiders, so that only one incident of alteration has come to the attention of the GEO.

The aborigines' original plan was to introduce the modifications over many generations, slowly improving their genotype to match the desired final form. The flood of newcomers has changed that strategy, forcing the aborigines to accelerate their program. The critical event came in 2186, when a GenDiver assault team destroyed a native village on the island of Ina. The first-stage children were warned by their aborigine mentors. They avoided the attack and then helped the aborigines to kill the invaders. The aborigines then took custody of the children, raising them to adulthood and transporting them to the jungles of Kauai.

Since then, the aborigines have recruited first-stage parahumans from all over the New Hawaii chain and sent them into newcomer settlements to gather detailed intelligence. More altered children are being born, the number of native communities subject to mutation has been increased, and there is an increasing number of second-stage births. The aborigines estimate that within four years, 20% of the births in most of New Hawaii's remote villages will be first-stage parahumans, and the first third-stage parahumans will be born soon afterward.

Meanwhile, the population of parahumans transplanted to Kauai has taken up an extremely primitive existence in the heart of that island's jungles. The 63 "Forest People" live at a Paleolithic level, using nothing but chipped stone, wood, bone, vine, and sinew. They are all quite young – the oldest members of the tribe are only 23, and most of them are in their late teens. Their worldview is profoundly xenophobic, despising "Outsiders." When Outsiders enter the Kauai jungles, they are watched from a distance. If they do no harm to the jungle or its life forms, they are permitted to leave without ever knowing that they were under surveillance. Otherwise, the Forest People deal with them, quickly and lethally. Many parties of poachers or smugglers have come to grief in the Kauai jungle. Their bodies are never found.

The Forest People migrate once per year to a sheltered bay on the east coast of Kauai. There they come into contact with the aborigines, whom they venerate deeply. The "Silent Ones" are regarded as teachers and protectors, and the Forest People obey them in all things.

In recent years, the Forest People have come into increasing contact with Outsiders. Biogene's Coronado Station is regarded as a serious threat, especially since survey teams from the station have pressed deep into the Forest People's territory. Meanwhile, a new resort complex has been opened at Avalon, leading tourists to mount expeditions into the jungles at the heart of Forest People territory. As the Forest People migrate into the vicinity of Avalon, new troubles are very likely.

Meanwhile, the first children have been born to the Forest People. Two of the most recent arrivals are radically different, with emerald-green photosynthetic skin and additional gill slits under their arms. The Silent Ones told the Forest People to expect changes in their children, so the tribe was prepared for this. The aboriginal scheme for human mutation is being pressed harder with the Forest People than with any other population in New Hawaii.

> *Meanwhile, the first children have been born to the Forest People. Two of the most recent arrivals are radically different, with emerald-green photosynthetic skin and additional gill slits under their arms.*

Northwest Territories

The aborigines have been in contact with the Sierra Nueva natives since *before* they migrated into the Northwest Territories in the first place. The original Bataku (p. 110) was tampered with by aborigines without his knowledge, acquiring a homing instinct which pulled him toward Sierra Nueva. The aborigines also directly contacted the dolphin mystic

Sage (p. 110), convincing him to help Bataku lead a complete colony to the new island.

After the Baffin Island colony was established, the aborigines continued to communicate with Sage and his successors, helping them to mold Sierra Nueva society. They also lent physical assistance, secretly providing food and "natural" medicines that helped the settlement get through its first difficult years.

Today, the Sierra Nueva natives show many signs of this covert relationship with the aborigines. They are unusually healthy and long-lived. They have learned more about their local environment than any other native group, allowing them to predict weather patterns with uncanny accuracy, understand the uses of native flora, and follow the behavior of local animal life. The aborigines have also lent some assistance in the war against GenDiver. Aborigines regularly participate in native attacks from behind the scenes. They have also used their nanotechnology to create weapons, ammunition, and other supplies critical to the war effort. At present, the effect of this material assistance has been to wean the natives from dependence on unreliable offworld allies. As time goes on, the natives may well convince their aborigine allies to produce even more powerful weapons.

There is one secret of which not even the Baffin Island natives are aware. Their current dolphin leader, Prophet, is not a cetacean at all, but a genetic construct. The real Prophet died in 2163, attacked by a marine predator while on a solitary journey into the wilderness. The aborigines created a perfect physical copy and replaced him. Not even Bataku has learned of this substitution, although most of the Baffin Islanders are aware that Prophet is an unusual dolphin. Indeed, the false Prophet is probably far more effective as a spiritual leader than the real one would ever have been.

Prime Meridian

As the Creators moved from star system to star system, they mined each for the resources needed to repair and add to their nomadic fleet. Most of this mining was done from moons or planetoid belts, but in some cases the Creators did their mining and shipbuilding on the terraformed world itself. Poseidon was one place where this was done, and the signs of that long-ago activity are visible on Prime Meridian.

Satellite photographs of the Drakensberg chain reveal the presence of chains of lakes, dotted through the jungles that cover the lower slopes of the mountains. These lakes were not formed through any normal geological activity. Instead, they are the water-filled remnants of the "hangars" and "construction cradles" used long ago in the rebuilding of the Creator fleet.

Meanwhile, elsewhere under the Drakensbergs there are a number of artificial caverns, hangar areas which have remained sealed since the Creators left Poseidon. In these underground caverns, swarms of nanites, hundreds of unfinished projects, and other Creator secrets wait for discovery. Various drone species sleep in stasis, as they have for millions of years. Most of the caverns are silent and deserted, waiting for the Creators to return.

One cavern complex in the region is no longer silent. Centuries ago, a series of severe earthquakes damaged the complex, awakening a number of the Creator's dormant servitors. Some of these survived the earthquakes. These creatures were unlike the aborigines in several respects. Only semi-sentient, they required the ingestion of nutrients to survive, but they could reproduce themselves in a natural fashion. Their activity awakened other nanotech systems, which were stimulated to produce food for the animals. Soon, there was a whole community of the creatures living throughout the cavern complex.

The animal species in question was originally a heavy work design. Bipedal, it has a huge body, a massive skeleton, and powerful muscles. The head is squat and neckless, with an array of eyespots and chemically-sensitive feelers. Instead of hands, each troglodyte has four powerful tentacles, which themselves split into numerous smaller tentacles for grasping and fine-manipulation ability.

The troglodytes are still driven primarily by the imperatives that the Creators programmed into them. Over time, they have undergone some cultural evolution, sublimating these programmed drives into elaborate communal behavior. With no construction projects available to work on, the trogs now think of themselves as guardians and caretakers of the cavern complex. They patrol the deep caves, keeping Poseidon's more aggressive predators out.

So far, the troglodytes have had only one contact with humanity – a human expedition which found an entrance to the cave complex and surprised a band of the creatures. The fearful troglodytes soon wiped out the expedition, later taking steps to seal up cavern entrances and post nanite alarm systems. The hidden creatures fear further contact with the strange invaders of their subterranean world.

Westcape

In recent years, Lavender Organics employed the Deep End Bathyspheric Station in the waters off Westcape. Deep End was a unique cross between a submersible and a sea-floor research station. It traveled the deepest parts of Poseidon's oceans, carrying a crew of 22 people and four smaller research submersibles. It did a variety of oceanographic research, although its primary purpose was to watch for and study Poseidon's aborigines.

Recently, Deep End encountered a remarkable artifact. Over five miles beneath the surface of the ocean, it came across a mysterious ovoid object rising out of the sediments on the bottom of a trench. Over 1,000 feet long, the object was at least partially hollow and appeared to have a very thin outer shell. Divers in hard suits investigated the object, even entering it after an opening appeared suddenly. Unfortunately, the team was only able to look around for a few moments before a swarm of protector aborigines attacked. The divers were cut off and presumed lost. Deep End surfaced to report back to Dyfedd, but then it too was attacked by forces unknown. When Lavender Organics operatives arrived, they found the station floating abandoned on the surface, its crew gone with no sign of an evacuation or a struggle.

Lavender Organics officials were able to recover some information about the artifact on the sea floor from Deep End records – although they know nothing of its nature. At present, they are still considering whether or not to launch a further investigation. The artifact, which has been named *Leviathan,* has so far remained unmolested.

In fact, Leviathan is a central component in the aborigine "civilization," a vast information archive left behind by the Creators themselves. It includes cultural and scientific data, along with a wealth of xenosilicate templates that serves as a "backup copy" for all the terraforming procedures once used on Poseidon.

The aborigines are beginning to use Leviathan as a place to archive data about humanity as well. In particular, the entire Deep End crew has been stored here. After the aborigines seized them, they thoroughly analyzed the crewmembers and created xenosilicate templates for each crewman, recording his DNA, any somatic variations, and all of his unique neural pathways. The facilities at Leviathan were able to accomplish this to an unprecedented degree, so the human "records" there are more complete and detailed than any others available. The crew's bodies are long dead, of course, left to be consumed by scavengers.

Further human investigation of Leviathan would doubtless be extremely dangerous. The aborigines will stop at nothing to keep the archive secret and protected from human interference.

Zion Islands

In 2118, the Athena Project's colony ship, the *UNSS Cousteau,* finally suffered terminal orbital decay and plummeted to the surface of Poseidon. The wreckage of the ship was scattered across a wide distance in the region of the Serendipity Atolls. A few pieces of the ship fell to land and were recovered by the local natives, including the main communications dish. At present, no outsider knows the location of the final resting place of the *Cousteau.*

Shortly after the crash, aborigines discovered the bulk of the wreck resting on the seafloor at a depth of over 10,000 feet. For many years, the aborigines ignored it. Since the arrival of newcomers on Poseidon, they have returned to the *Cousteau,* looking for clues to the nature of the strange alien visitors.

Over the years, the wreck of the *Cousteau* has been turned into an extensive aborigine research site (p. 132-133). The wreckage has been covered with a vast shell of limestone, a kind of organic hangar over 1,000 yards long and 300 yards across. Inside this chamber, phosphorescent organisms gently illuminate the hulk of the *Cousteau.* Aborigines swim in and around the wreckage. Organic tendrils connect parts of the ship to a network of organic nodes embedded in the walls of the hanger. These nodes form a powerful computational network, in effect a great artificial sentience that is engaged in analyzing the starship's systems.

The great value of the *Cousteau* lies in its core computer memory, much of which survived the fall intact. Learning to read the core's stored information was a long and painstaking task for the aborigines, but they managed it some years ago. As a result, the aborigines have learned a great deal about humanity. The core contained a complete cultural archive, so the aborigines have access to all the history, great literature, and scientific works that were available before the launch of the *Cousteau.* Of course, the archive held no information about the Blight or conditions on Earth afterward, so the aborigines still know very little about recent human history (or the motivations that spring from it).

Having assimilated much of the *Cousteau* archive, the aborigines of the Zion Islands are busy with a new phase of their study of humanity. They seek to integrate their experiences with present-day humans into the base of knowledge they have gained from the archive. To this end, they try to observe and meet with isolated humans, "interrogating" them through their chemoempathic senses. The Zion Islands aborigines are also interested in modern computer equipment, and occasionally try to steal new databases to convey back to the *Cousteau* for analysis and integration.
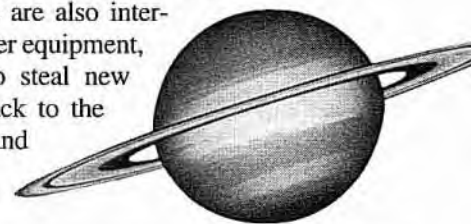
Bibliography

Below is a brief list of books that GMs may find useful for preparing and running a *GURPS Blue Planet* campaign.

Hartmann, William K. *Moons and Planets, 4th edition* (Wadsworth, 1999). A comprehensive guide to the science underlying science-fictional planet building.

Vogel, Steven. *Life's Devices* (Princeton University Press, 1988). A survey of the mechanics of living organisms.

Vogel, Steven. *Life in Moving Fluids, 2nd edition* (Princeton University Press, 1994). A more technical study of the mechanics of living organisms, focused specifically on their interactions with air and water.

Denny, Mark W. *Air and Water* (Princeton University Press, 1993). A survey of the physical properties of air and water and their effects on living beings. Goes into great technical depth without becoming unreadable.

Gillett, Stephen L. *World-Building* (Writer's Digest Books, 1996). A guide to planet building specifically addressed to the aspiring science-fiction writer. Part of the *Science Fiction Writing Series,* edited by Ben Bova.

Skinner, Brian J., Porter, Stephen C., and Botkin, Daniel B. *The Blue Planet, 2nd Edition* (Wiley, 1999). The name is a marvelous coincidence; this is a first-rate textbook on the scientific study of the Earth, including its atmosphere and oceans. This information can be extrapolated to provide an idea of the way things could work on other planets.

There is more published material for the *Blue Planet* setting than could possibly fit into this book. GMs may wish to use some of that additional material. Players may come to a *GURPS Blue Planet* campaign with characters already created and want to go on playing them. The following guidelines can be used for these purposes.

CHARACTERS

Character descriptions in *Blue Planet* can be changed over to *GURPS* character descriptions in two ways. One way is to select *GURPS Blue Planet* templates that correspond to *Blue Planet* packages, select corresponding biomods, and then adjust *GURPS* attributes and skills to reflect modified attributes and custom skills in the original character description. A more complex approach is to translate each *Blue Planet* attribute, advantage, and skill directly, ignoring packages. Species traits still have to be handled separately in this approach, because *GURPS* distinguishes between racial and individual traits; but the skills included in origin, background, and professional packages can be converted one by one to equivalent *GURPS* skills.

Attributes

For human characters (pure strain, modified, or genie), translating *Blue Planet* attributes is straightforward. For dolphin and orca characters, translating Build and Fitness is more complex; see *Creatures*.

Build converts to ST, as both attributes determine size and gross musculature. A *Blue Planet* Build of 0 converts to a *GURPS* ST of 12; each +1 increases ST by 1, and each -1 decreases ST by 1.

Fitness converts to HT, in the same way.

Agility converts to DX, in the same way.

If *Dexterity* differs from Agility, buy Manual Dexterity [3/level] or Reduced Manual Dexterity [-3/level] to reflect this.

Intellect converts to IQ, in the same way as for Build and ST.

If *Awareness* is higher than Intellect, buy one level of Alertness per point of difference. If Intellect is higher, buy Bad Sight and/or Hard of Hearing.

If *Will* differs from Intellect, buy Strong Will or Weak Will, one level per point of difference.

Presence can be translated into any combination of Appearance, Charisma, and Voice. The total reaction modifier should equal the value of Presence.

Derived attributes often work best as advantages: bonuses or penalties to Endurance as Fit or Unfit, bonuses to Reflexes as Combat Reflexes, bonuses to Toughness as Extra Hit Points (+1 Toughness is equivalent to Extra Hit Points +2). Bonuses to Strength are best treated simply as increased ST.

Differences in sense scores should ordinarily be disregarded, as GURPS does not provide exact equivalents for all of them. If an exceptionally keen sensory ability is central to a character concept, consider taking Acute Hearing, Acute Smell/Taste, or Acute Vision.

As part of the special treatment of racial traits in *GURPS*, if a *Blue Planet* character is a genie or cetacean, determine the default racial attribute scores and the modifications to those scores for individual characters. Convert the modifications into *GURPS* attribute scores; then apply the attribute modifiers in the *GURPS* species templates.

For example, a silva character has a Build of 4. Divide this into 3 (the species default) +1 (the modifier for that character as an individual). Convert +1 Build to ST 13; then apply the +3 ST from the silva species template (see p. 20) to obtain a final ST of 16. This costs 30 points; an additional 30 points for the +3 ST are included in the 40 points for the species template.

Under the Hood: Why ST 12?

Converting *Blue Planet* Build 0 to *GURPS* ST 12 may seem odd, given that Build 0 is supposed to be average and the average attribute value in *GURPS* is 10. Why 12?

First, it matches the success probabilities. A *Blue Planet* attribute roll is made by rolling two 10-sided dice; if either is less than or equal to (5+attribute), the roll succeeds. So a roll against Build 0 succeeds 75% of the time (it fails only if both dice come up 6-10). A roll against ST 12 succeeds 74.1% of the time. Similarly, a roll against ST 10 succeeds 50.0% of the time; a roll against Build -2 fails if both dice come up 4-10, which happens 49% of the time, so it succeeds 51% of the time. All the other probabilities match up fairly closely.

Second, unmodified human *Blue Planet* characters range from Build -3 to Build +3. A *GURPS* ST range from 9 to 15 covers the most likely values for player characters to have. A look at *GURPS* templates for player characters will confirm this.

Third, *Blue Planet* characters have been selected for good natural abilities and good training before going to Poseidon; and once there, they've been tested by a planetfull of exotic ways to die. It's reasonable to suppose they're a bit better than average. Building this into the conversion process ensures that *Blue Planet* characters will convert into *GURPS* characters who are enjoyable to play and likely to survive being played.

Advantages and Disadvantages

Blue Planet characters don't have advantages and disadvantages, other than those subsumed under biomods (discussed below). When converting them to GURPS characters, it's best to be conservative about adding advantages and disadvantages. Many disadvantages are rare on Poseidon, including unattractive appearance, most physical handicaps, and mental disadvantages that reflect emotional disturbance.

However, advantages and disadvantages that reflect social and economic relationships can be added freely, with the GM's approval and up to the usual -40 point limit for disadvantages. Quirks may also be added. So far as possible, base these on the established job, social position, and past behavior of the Blue Planet character. In setting a wealth level, look at the Jobs table (pp. 39-40) for guidance. Note that cetaceans have Social Stigma: Second-Class Citizen, while cats and silvas have Social Stigma: Minority Group.

Skills

With only a few exceptions, Blue Planet skills correspond closely to GURPS skills. Technological skills should be bought at TL9.

A Blue Planet skill of 5 ordinarily translates to a GURPS skill of DX-2 or IQ-2, whichever applies. Each point of increase or decrease in the Blue Planet skill gives 1 point of increase or decrease in the equivalent GURPS skill. This method of calculation takes into account Blue Planet skill bonuses or penalties from attributes; they need not be separately translated. A strong aptitude gives +2 to the applicable skills, and a superior aptitude gives +4; treat this as a direct increase in the skill levels, not as an advantage or disadvantage. If the final value of a skill is worth less than 1/2 point in GURPS, either raise the skill to the 1/2 point level or lower it to default, whichever is closer; if the skill has no default, raise it automatically to the 1/2 point level if the character has the prerequisites, but otherwise drop it entirely.

Skill Correspondences

Blue Planet Skill	GURPS Skill
Acting	Performance or Acting
Anthropology	Anthropology
Archeology	Archaeology
Armed Combat	Knife, Shortsword, or other melee weapon
Artisan	various craft skills
Astronomy	Astronomy
Biochemistry	Biochemistry
Botany	Botany or Naturalist
Bribery	Savoir-Faire or Streetwise
Bureaucracy	Administration
Chemistry	Chemistry
Computers	Computer Operation and Computer Programming

Blue Planet Skill	GURPS Skill
Culture skills	cultural familiarities (see p. 38)
Damage Control	Engineer or Shipbuilding
Dance	Dancing
Demolitions	Demolition
Disguise	Disguise or Acting
Driving	Driving
Electronics	Electronics Operation and Electronics
Fast-Talk	Fast-Talk
First Aid	First Aid
Fishing	Fishing
Foraging	Survival
Forensic Medicine	Pathology
General Medicine	Physician
Genetics	Genetics
Geology	Geology, Naturalist, or Oceanography
Gunnery	Gunner
Handguns	Guns
Heavy Weapons	Gunner
Hiding	Stealth
History	History
Leadership	Leadership
Lockpicking	Lockpicking
Logistics	Administration
Longarms	Guns
Management	Administration
Mechanics	Mechanics
Meteorology	Meteorology
Mountaineering	Climbing
Music	Cyberaxe, Musical Instrument, or Singing
Navigation	Navigation
Negotiation	Merchant
Oration	Bard
Orienteering	Orienteering
Painting	Artist
Persuasion	Diplomacy
Pharmacology	Pharmacology
Photography	Photography
Physics	Physics
Piloting	Piloting
Politics	Politics
Psychology	Psychology
Remote Operation	no equivalent skill; see p. 57
Sailing	Boating
Sculpture	Sculpting
Shadowing	Shadowing
Sleight of Hand	Sleight of Hand
Sneaking	Stealth
Strategy	Strategy
Surgery	Surgery
Tactics	Tactics
Theology	Theology
Tracking	Tracking
Unarmed Combat	Brawling, Judo, Karate, or Wrestling
Veterinary Medicine	Veterinary
Writing	Writing
Zoology	Zoology or Naturalist

Notes. If a *Blue Planet* skill corresponds to two or more *GURPS* skills, choose the one that best suits the character concept, unless one of the skills is a prerequisite for the other. In this case, either take the prerequisite skill at the equivalent level, or take the prerequisite skill at the level required to learn the other skill (usually skill-12), determine the point cost of any additional levels, and spend them on the other skill. If two or more *Blue Planet* skills correspond to the same *GURPS* skill, determine the point cost for the equivalent *GURPS* skill level, and spend the combined points on the *GURPS* skill.

If a *GURPS* skill has no *Blue Planet* equivalent, but is prerequisite to a skill that a character has, take it at the prerequisite skill level. With the GM's permission, other skills may be taken at the 1-point level if it's plausible that they would accompany converted skills; for example, a scientist with Physics skill could have Mathematics at IQ.

Languages

Languages are roughly equivalent to skills, but are converted slightly differently. A character's native language should be known at IQ at a cost of 0 points. Other languages should be known at this level or lower, at the standard point cost for skills. A *Blue Planet* skill of 6-10 does not raise knowledge of a language above IQ. However, a character with strong or superior aptitude for Communication has Language Talent +2 [4] or +4 [8] and, as a consequence, +2 or +4 to all languages.

Biomods

Most of the biomods in *GURPS Blue Planet* have the same names as the equivalent *Blue Planet* biomods, making character conversion quite straightforward. The following exceptions should be noted:

Accelerated Neurons

See *Hyperactive* (p. 37).

Amplified Hearing

See *Acute Hearing* (p. 36).

Anatomical Cyberware

See *Bionic Eye* (p. 35) and *Prosthetic Limbs* (p. 35).

Anti-Poison

See *Cast Iron Stomach* (p. 36).

Aquaform, Hybrids, Spacer, Transhuman

See *Genetic Redesign* (p. 36).

Body Sculpting

Buy some level of Appearance.

Echolocation

See *Sonar Vision* (p. 30).

Electro-Muscular Analogs

See *Bioelectric Shock* (p. 37).

Enhanced Smell

See *Discriminatory Smell* (p. 36).

Multiglands

See *Emotional Control* (p. 36), *Hyper-Reflexes* (p. 36), and *Hyper-Strength* (p. 36).

Respiratory Filter

See *Filter Lungs* (p. 36).

Sample Character

Marfa Ivanova Brodskaya

As an orphan on the streets of Moscow, Brodskaya found shelter with the Gorchoff Family. Now, as the family moves in to take over the black markets and rackets of the Poseidonian frontier, she is repaying them by helping to manage the takeover. This is often an ugly job and sometimes dangerous; she copes by maintaining a cool professionalism about everything from accounting to assassination.

Archetype Data

Species	Transhuman
Power Level	Exceptional
Custom Points	10
Armor Rating	2

Primary Attributes

Build	0	Awareness	2
Fitness	1	Intellect	0
Agility	2	Presence	2
Dexterity	1	Will	1

Derived Attributes

Endurance	2
Reflexes	2
Strength	0
Toughness	0

Senses

Chemical	1
Hearing	3
Intuition	3
Touch	1
Vision	2

Biomods
Multiglands

Aptitudes

Superior
Communication
Subterfuge

Strong
Administration
Close Combat
Firearms
Stealth

Training Packages

Origin
Backgrounds

Professional

Urban
Street
University
Expert Crime (Gangster)
Novice Commerce
Novice Law Enforcement

Skills

Administration Bureaucracy 6, Economics 2, Law 7, Management 2

Agriculture
Athletics
Close Combat Armed Combat 4, Unarmed Combat 5
Command
Communication English 3, Russian 5, Negotiation 7, Persuasion 7, Writing 3
Culture Earth 7, Incorporate 1, Street 7
Fine Arts
Firearms Handguns 5, Longarms 4
Human Sciences History 1, Politics 1
Life Sciences
Medicine First Aid 1, Forensic Medicine 1
Military Weapons
Physical Sciences
Stealth Hiding 4, Shadowing 4, Sneaking 4
Subterfuge Bribery 5, Fast-Talk 6, Lockpicking 2, Sleight of Hand 1
Survival
Tech Computers 3, Remote Operation 1
Vehicles Driving 3

Gear and Weapons

Bodycomp; Light armor vest; Small-caliber handgun with 2 magazines standard ammunition; Submachine gun with 2 magazines standard ammunition; Ultrasonic hypodermic with 1 dose antishock and 2 doses reflex serum.

Marfa Ivanova Brodskaya
359 points

Age 30; 5'9"; 140 lbs. An attractive blonde woman with a husky voice.

ST 12 [10]; **DX** 14 [45]; **IQ** 12 [20]; **HT** 13 [20].
Speed 6.75; Move 6.
Dodge 7.

Advantages: Alertness +2 [5]; Charisma +1 [5]; Combat Reflexes [15]; Comfortable [10]; Emotional Control [63]; Hyper-Reflexes [15]; Hyper-Strength [30]; Language Talent +4 [8]; Patron (Vladimir Sergeevitch Gorchoff, 12 or less) [20]; Status 1 [5]; Strong Will +1 [4]; Transhuman [70].

Disadvantages: Addiction (Tobacco) [-5]; Code of Honor (Gangster) [-5]; Duty: Gorchoff family, 12 or less [-10]; Reduced Manual Dexterity -1 [-3]; Secret (Crime boss's lieutenant) [20].

Quirks: Careful; Likes to dance. [-2]

Skills: Administration-13 [2]; Brawling-14 [1]; Computer Operation/TL9-11 [1/2]; Dancing-12 [1]; Diplomacy-17* [12]; Driving/TL9 (Hovercraft)-11 [1/2]; Economics-9 [1/2]; Electronics Operation (Medical)-12 [2]; Fast-Talk-17** [8]; Guns/TL9 (Pistol)-15† [1/2]; Knife-13 [1/2]; Law-14 [8]; Lockpicking-11 [1]; Merchant-16 [10]; Pathology-9 [1/2]; Physiology-12 [8]; Savoir Faire-11 [1/2]; Shadowing-11 [1]; Sleight of Hand-12 [1]; Stealth-14 [2]; Streetwise-14 [6]; Writing-12 [2].
* Includes +1 from Charisma +1.
** Includes skill bonus from Emotional Control.
† Includes +2 from IQ 12.

Languages: English-14* [1/2]; Russian-16* (native) [0].
* Includes bonus from Language Talent +4.

Equipment: Automatic pistol, 7.62mm, with two 25-round clips [3.7 lbs.]; bodycomp [0.25 lbs.]; light vest [2.5 lbs]; submachine gun, 7.62mm, with two 100-round cassettes [6.7 lbs.]; ultrasonic hypodermic [0.5 lbs.]. [Total weight: 13.65 lbs.]

Conversion Notes

Build 0 is actually Build 1 (transhuman default) -1; the -1 converts to ST 11, costing 10 points, and +1 from the species template gives ST 12. Fitness 1 is actually Fitness 1 (transhuman default) +0; the +0 converts to HT 12 costing 20 points, and +1 from the species template gives HT 13. Agility 2 converts to DX 14 for 45 points. Dexterity is 1 point lower than Agility; this gives Reduced Manual Dexterity -1 for -3 points. Intellect 0 converts to IQ 12 for 20 points. Awareness 2 is actually Awareness 1 (transhuman default) +1; this is 2 points higher than Intellect, which gives Alertness +2, at a net cost of 5 points, since Alertness +1 is included in the transhuman species template. Presence 2 is actually Presence 1 (transhuman default) +1; the +1 is translated into Charisma +1 for 5 points, and Attractive is included in the transhuman species template. Will 1 is 1 point higher than Intellect, which converts to Strong Will +1 for 4 points.

Bureaucracy 6 translates to Administration at IQ-1 or Administration-11; strong aptitude raises this to Administration-13, costing 4 points. Management 2 similarly translates to Administration-9, costing 1/2 point, not enough to justify an increase in total skill, as 4 1/2 is closer to 4 than to 6. Hiding 4 and Sneaking 4 both translate to Stealth at DX-3, raised by strong aptitude to DX-1, or 13, worth 1 point each; the total of 2 points gives Stealth-14. The skills of Economics, First Aid, Forensic Medicine, History, and Politics convert to default values.

CREATURES

Both *Blue Planet* and *GURPS* provide detailed information on the capabilities of plants and animals. However, converting between the two often calls for judgment. Consult the following guidelines.

Move/Dodge

To convert the *Blue Planet* Movement rating to a *GURPS* Move, multiply the top speed for the most frequently used form of movement by 0.3. List other forms of movement in the text description. Dodge is half of Move or half of DX (see below), whichever is higher.

PD/DR

DR is based on the a creature's Armor rating, if any: 1 equates to DR 1-2, 2 to DR 3, 3 to DR 4, 4 to DR 5, 5 to DR 6. The upper limit for natural creatures is DR 6. PD represents the ability to deflect a blow. Dense fur gives PD 1; a hard shell gives PD 2-4, depending on its shape. The upper limit for natural creatures is PD 4.

Damage

Blue Planet Damage Rating converts to *GURPS* Damage scores roughly as follows:

Blue Planet	GURPS
1	1d-1 or less
2	1d
3	1d+1
4	1d+2
5	2d
6	2d+2
7	3d-1
8	4d
9	5d
10	6d+2

Reach

Most creatures have a reach of C. Creatures with long horns, tails or other strikers, or-with grasping arms, may have a reach of 1 or more.

Size and Weight

Convert weight from kilograms (as given in *Blue Planet*) to pounds (as used in *GURPS*). Estimate size from a creature's length. Most creatures are no more than one hex wide, so they are as many hexes in size as they are yards long; convert length in meters given in *Blue Planet* to length in yards. A few very large creatures, more than 3' wide, may have size twice or three times their length in hexes. See above for conversion factors.

Units of Measurement

One minor obstacle to converting between *Blue Planet* and *GURPS* is the use of different systems of measurement. *Blue Planet* uses the metric system; *GURPS* uses a hybrid system largely based on traditional English units. The following formulas can be used to calculate the *GURPS* equivalents of *Blue Planet* measurements for creatures or technology:

Height/length in inches	=	$39.37 \times$ height/length in meters
Height/length in feet	=	$3.28 \times$ height/length in meters
Length in yards	=	$1.1 \times$ length in meters
Length in miles	=	$1.6 \times$ length in kilometers
Volume in cf	=	$0.035 \times$ volume in liters
Speed in mph	=	$0.625 \times$ speed in kilometers per hour
Weight in pounds	=	$2.2 \times$ weight in kilograms
Energy in kilowatt-seconds	=	$3.6 \times$ energy in watt-hours
Fahrenheit temperature	=	$1.8 \times$ Celsius temperature + 32

When we contemplate the whole globe as one great dewdrop, striped and dotted with continents and islands, flying through space with all other stars all singing and shining together as one, the whole universe appears as an infinite storm of beauty.

– John Muir, **Travels in Alaska**

Attributes

A creature's ST should normally be estimated from its damage; see p. B140 for biting damage, or p. B74 for thrusting and swinging damage.

A creature's DX in *GURPS* equals its Agility in *Blue Planet*, plus its skill rating in its primary natural attack, plus 12.

A creature's IQ can be estimated from its behavior. Plants have IQ 1; insects and most other invertebrates have IQ 2; fish, amphibians, and reptiles have IQ 3; most mammals have IQ 4; animals with high levels of curiosity or sophisticated social behavior have IQ 5; apes have IQ 6; IQ 7 represents the borderlines of sentience.

A creature's HT represents its ability to cling to life; for most wild creatures this ranges between 11 and 15, with 12 as a fairly typical score. Many creatures have split HT, with hits points reflecting body mass; animals weighing 1 lb. or less have HT 1-2, human-sized animals have HT 10, and animals the size of a horse or bear average 20.

Technology

Equipment in *Blue Planet* has a variety of features, which together describe any device in considerable detail. Here are guidelines for interpreting these in *GURPS* terms:

Armor Rating: Use the following table:

Blue Planet Armor Rating	GURPS DR
1	1-2
2	3
3	4
4	5
5	6
6	7-8
7	9-10
8	11-12
9	13-15
10	16-19

Note, though, that submersibles in *GURPS* require much higher armor ratings to attain a useful crush depth.

Cost: Costs in *GURPS Blue Planet* should be the same as costs in *Blue Planet*. Exceptions may be made in some cases. If an item of gear in *GURPS* technical source material is effectively equivalent to a *Blue Planet* item, the *GURPS* cost may be used; this was done with batteries, for example. If a complex device can be designed using *GURPS* rules, the computed cost of that device can be used in place of the *Blue Planet* cost; this was done with computers, for example. If there is no comparable *GURPS* device, write up the *Blue Planet* device as a new technology with a new cost.

Crew: The *GURPS* crew size should be the same as the *Blue Planet* crew size.

Damage Rating: Use the same progression as for creatures (see p. 141). For Damage Ratings above 10, note that +3 to the *Blue Planet* damage rating equates to ×2 *GURPS* damage. For example, if a cannon inflicts damage of 15, note that 9 + 6 = 15; since a Damage Rating of 9 converts to damage of 5d, a Damage Rating of 15 converts to damage of 5d × 4, or 20d.

Dimensions: Convert length, breadth, and height from meters to feet. Convert volume from liters to cf. Convert weight from kilograms to pounds. See p. 141 for conversion factors.

Fuel Efficiency and Range: Divide Range, in kilometers per tank of fuel, by Fuel Efficiency, in kilometers per liter of fuel, to obtain liters of fuel per tank. Multiply this by 2.2 to obtain weight of hydrogen fuel carried in fuel modules.

Passenger/Cargo Capacity: The *GURPS* passenger capacity should be the same as the *Blue Planet* passenger capacity. As a rule of thumb, each passenger weighs 200 lbs. As a rule of thumb, if passenger space is converted to freight space, assume that each passenger's space holds 20 cf of cargo with an average weight of 400 lbs., roughly doubling the load carried.

Rate of Fire and Burst Fire Value: For a single-shot weapon, Rate of Fire converts directly to RoF. For a burst weapon, multiply Rate of Fire by Burst Fire Value to get RoF. For a fully automatic weapon, multiply the fully automatic Rate of Fire by Burst Fire Value to get RoF. Select a firing mechanism capable of producing that rate of fire to design the weapon.

Speed and Combat Speed: Convert from kilometers per hour to miles per hour. Divide this by 2 to obtain Move in yards per second.
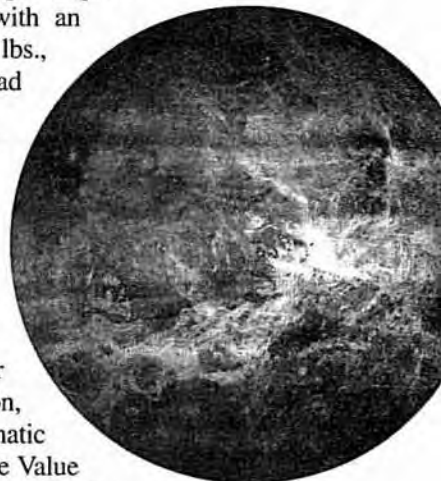
Under the Hood: Technology Conversions

The conversion guidelines say "If a complex device can be designed using *GURPS* rules . . ." For some conversions, this was straightforward. Others required a measure of ingenuity. Literal substitution of a *GURPS* technology for a *Blue Planet* technology with the same name and description may produce radically different performance. But it may be possible to get a closer fit by assuming an extra design feature or two.

For example, jumpcraft as described in *Blue Planet* have no wings, getting their lift from lift fans – which are vectored thrust fans in *GURPS* terms, since they also provide thrust for horizontal flight. But the highest fuel weight the craft can carry allows only a short time in flight, and using most of the engines' thrust for lift limits the maximum speed. On the other hand, giving the jumpcraft a lifting body design lets it put all its thrust into flight speed, which allows either much higher speed or longer flights at somewhat slower speeds; in fact, the resulting dual performance specifications look somewhat more like the specifications in the source material. Giving the jumpcraft wings would change the original description, but giving it a lifting body is a way of interpreting the description. Such interpretations preserve the technological feel of *Blue Planet* while minimizing the need for radically new technologies in *GURPS*.
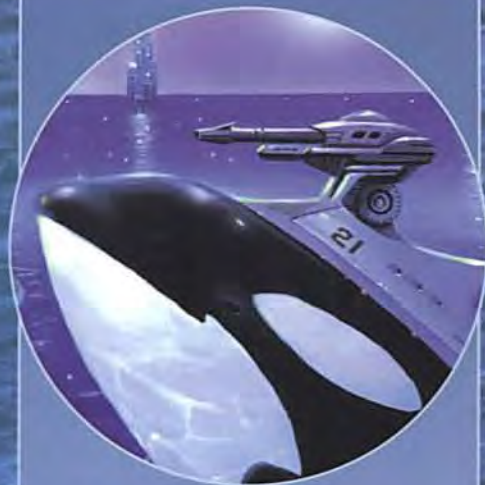
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