



# PYRAMID<sup>®</sup>



Issue 3/18 April '10

## SPACE EXPLORATION



## SHORES BEYOND THE NIGHT

by Kelly Pedersen



**SECONDHAND  
SPACE EXPLORATION**  
by Andy Vetromile

**CLOSE ENCOUNTERS  
OF THE UNWANTED KIND**  
by J. Edward Tremlett

**LOOTING YOUR LIFE POD'S LOCKER**  
by Ken Spencer

**COLD HORIZON**  
by Mark Gellis

# STEVE JACKSON GAMES

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# CONTENTS

FROM THE EDITOR .....	3
SHORES BEYOND THE NIGHT .....	4
<i>by Kelly Pedersen</i>	
CLOSE ENCOUNTERS OF THE UNWANTED KIND .....	14
<i>by J. Edward Tremlett</i>	
RUINS AND MORE .....	19
COLD HORIZON .....	23
<i>by Mark Gellis</i>	
SECONDHAND SPACE EXPLORATION: THE POWER OF PROBES .....	29
<i>by Andy Vetromile</i>	
LOOTING YOUR LIFE POD'S LOCKER. ....	35
<i>by Ken Spencer</i>	
RANDOM THOUGHT TABLE: IN AN INFINITELY MUNDANE COSMOS, THE ONLY IMPOSSIBILITY IS BOREDOM .....	37
<i>by Steven Marsh, Pyramid Editor</i>	
ODDS AND ENDS .....	39
<i>featuring Murphy's Rules</i>	
ABOUT GURPS .....	40



## Article Colors

Each article is color-coded to help you find your favorite sections.

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*Brown:* In Every Issue (letters, humor, editorial, etc.)

*Dark Blue:* **GURPS** Features

*Purple:* Other Features

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# IN THIS ISSUE

This month's *Pyramid* turns an eye toward the final frontier, with the topic of *Space Exploration*.

Our first destination is an alternate history where Earth has begun to colonize the moon, Mars, and Venus in *Shores Beyond the Night*. Explorers race to discover the exciting possibilities the solar system offers – including offworld alien artifacts that can take humanity's tech to the next level! This setting can be incorporated into the larger **GURPS Infinite Worlds** framework or used on its own for space-probing suspense.

Not all discoveries are pleasant, as *Close Encounters of the Unwanted Kind* will reveal. These five mysterious and dangerous encounters – suitable for any space-faring system – can form the basis for an exciting adventure or an altered campaign.

When you're done colonizing the main moons and planets of the solar system, set your sights on the Kuiper Belt and beyond in *Cold Horizon*. Carve out a comet and call it home! When you can live on a comet, "a snowball's chance in hell" suddenly gets a *lot* more likely. What problems and opportunities await? What kinds of realistic sci-fi campaigns are possible? Plus, to get you started, it includes a deep space station presented in **GURPS Spaceships** stats!

The exploration of space doesn't mean just astronauts and away teams; sometimes the best tool for the job is a probe. Discover a thorough examination of the possibilities and pitfalls of indirect celestial searches in *Secondhand Space Exploration*, which includes much food for thought and a handful of adventure ideas. Remember: You can't spell "problem" without a "probe" . . .

When things go wrong, you want to know that you can count on your life pod to support you until help arrives. *Looting Your Life Pod's Locker* itemizes exactly what's included in five different models of life pods, presented in **GURPS Ultra-Tech** terms.

Rounding out the issue, *Ruins and More* offers an easy-to-use way to abstract xenoarchaeological efforts, *Random Thought Table* looks at how the mundane can be magical in space, and *Murphy's Rules* provides its usual popular parachute of nitpicking pratfalls . . . literally, this month!

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# FROM THE EDITOR

## TO AN EXPLORER, SUCCESS IS BRINGING BACK THE UNKNOWN, WRAPPED IN A BOW

Behold, the *Space Exploration* issue of *Pyramid* – the third in our trilogy of exploration-themed issues! Now that our three-pack has ended, it's time to reflect a bit on it. This trilogy was something of an experiment on a couple of fronts.

First, its topic was more broad and “loose” than many previous themes; really, a huge percentage of adventurers in all ages could probably put “explorer” on their Feudal/Federal/Federation Income Tax forms. (Can you tell that April is tax month here in the States?) Since it's a looser theme, hopefully it'll find a wider audience. Even if your heroes aren't flag-planting frontiersmen, some of the material here should still prove useful!

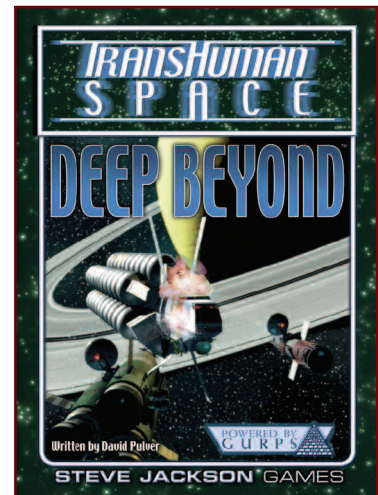
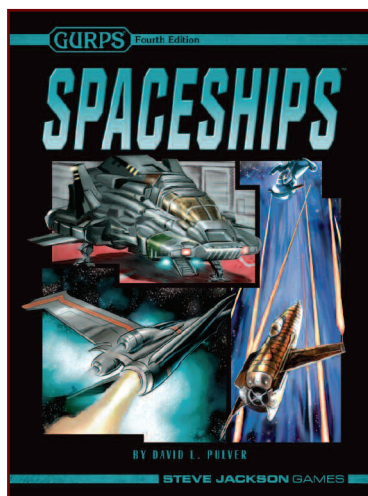
Second, we had our first “crossover” articles – the Pele world trilogy (although we took great pains to make sure that

the articles still made sense even if you only picked up one issue!). As *Pyramid* continues, we're experimenting a bit more with ideas that let you utilize your back-issue library – while still making sure articles stand on their own, of course!

Of course, sometimes it's hard for explorers to know how successful they were; Columbus believed that he had found a new way to India, with long-reaching consequences. So how successful we were with either of these two aspects is up for you to decide. And you can do that by making sure to . . .

## WRITE HERE, WRITE NOW

Remember: You are the “sponsors” for our exploratory efforts! We always welcome comments about how close we've come to meeting your expectations. Please feel free to send letters and comments to [pyramid@sjgames.com](mailto:pyramid@sjgames.com), or post online on our forums at [forums.sjgames.com](http://forums.sjgames.com). And if you'd like to explore some writing of your own and try contributing to *Pyramid*, please check out our Writer's Guidelines at [sjgames.com/pyramid/writing.html](http://sjgames.com/pyramid/writing.html) for more information!



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# SHORES BEYOND THE NIGHT

BY KELLY PEDERSEN

“Knowledge is power” is a truism. Knowing more than your opponents can lead to victory, if it’s the right knowledge. Often the information that you didn’t even know existed can prove the most useful. Curiosity has thus been a survival trait throughout history. On Homeline (*GURPS Infinite Worlds*), the race to space was driven by this principle. Neither side in the Cold War was willing to allow their opponents to learn more than themselves about rocketry or the engineering of space vehicles, lest the opposition gain too great an upper hand. Only once it became clear that the advantage of space was not terribly significant (and national pride had been assuaged) did the space race peter out.

On Pele-3, though, it hasn’t stopped. The civilizations of this alternate timeline, inspired by swifter progress through increased contact between the great cultures of the Old World, developed their technology faster than Homeline, ultimately finding a boost through mysterious pre-human

constructions scattered over the globe. Now, the great powers of the world journey through the solar system with reactionless drives and force screens. The competition to see who can find and exploit the most alien relics on the new frontier worlds is fierce. Meanwhile, the Infinity Patrol and Centrum are along for the ride, as Pele-3’s space exploration takes them to *truly* unfamiliar worlds.

## INFINITE WORLDS

Like Pele-1 in *An Age of Sails* (*Pyramid* #3/16) and Pele-2 in *The Map’s Dark Spaces* (*Pyramid* #3/17), Pele-3 is designed as a new timeline for the *Infinite Worlds* setting. As with many activities on other worlds, Homeline keeps its activities low-key. Thus, the GM can easily remove *Infinite Worlds* references without changing the flavor, turning this world into a location for adventure by itself.

## PELE-3

Pele-3 is a timeline where Old World countries entered the age of exploration and colonization on even footing, with China and India extending their power and influence at the same time as Europe. The greater wealth and cultural interaction have spurred faster technological development; Pele-3 is in the middle of TL9 when Homeline was only TL8, with the solar system being explored by the competing nations of Earth. As humans range outward, they are discovering alien structures, apparently left by the same beings that created the ruins on Earth and thus gave humanity the secrets of space travel (see pp. 8-9). Scientists and engineers, military and business interests – all are looking for the next breakthrough to be had from the remains of the alien civilization, and the bold explorers who search for them are charting the new horizon!

## ADRIFT ON THE SEA OF HISTORY

Pele-3’s divergence from Homeline technically happened about 5,000,000 years ago. The magma plume under the Pacific plate that produced the Hawaiian archipelago on Homeline was both broader and much more active on Pele-3. This increased volcanic activity created not the familiar Hawaiian chain, but a single large island. This new landmass, about 200 miles wide, extends approximately 500 miles west-northwest from the location that corresponds to Homeline’s Big Island to beyond Kauai. The increased volcanic activity faded 200,000 years ago.

*Offworlders might use a visit to Pele to justify picking up advanced tech. Don’t lose your parachronics . . .*

This new land did not significantly affect *human* history until much more recently, when the Polynesian culture discovered it around 500 A.D. The Polynesians found the enlarged Hawaii a lush, thriving place to call home, and an excellent platform from which to dominate the western Pacific. The Hawaiian empire was a loose collection of independent islands linked by trade routes and tribute agreements, but it sufficed to spread Polynesian culture more than on Homeline. By 1000, Polynesian sailing and navigation technology had reached the shores of eastern Asia and soon spread to India.

Asian cultures, influenced by Polynesia, developed greater willingness to sail beyond their familiar shores. Increased trade and cultural contact drove the formation of expansive, outward-looking societies in both China and India. A pan-Indian empire rose and fell, leaving the successor states with a vision of a unified subcontinent, and a desire to expand that pushed them northwest into Central Asia and west to Africa. The Wanyou Dynasty, which retook China from the Mongols, expanded its hegemony into Central Asia and through Korea and Japan. To the south and east, ethnic Chinese, descendants of the dynasty who had been expelled by the Mongols, were forming states of their own, most notably in Lu Daoyu (Homeline Philippines) and on Hawaii itself.

In 1481, an explorer from Lu Daoyu made the most significant sea voyage in Pele-3's history, discovering a new world to the east of Asia. Colonists from Lu Daoyu and Hawaii settled this new frontier, but they soon became locked in conflict with the other recent arrival: the Spanish Empire. Native tribes and city-states became prizes and strategic objectives. The Native Americans tried to catch up to the technology of the two great civilizations, while doing their best to survive the conflict.

In the early 1600s, in Kuangdi (Homeline Australia), a Chinese inventor created the next revolution for Pele-3: steam power. The new technology swept the globe, advancing how humanity traveled, farmed, worked, and played. New steam-powered vehicles sped the march of the Deccan Confederacy, the southernmost of the Indian states, as it colonized Sub-Saharan Africa. Steam power also helped break the back of the complacent and corrupt Wanyou Dynasty. Its replacement, the Gaoyang Dynasty, hailed from the Japanese provinces.

Steam power ruled the world for a century and a half. By 1750, the industrial era was in full flower and the mechanized age began, with the appearance of internal combustion engines and powered flight.

## WONDERS OF THE ANCIENT WORLD

In 1745, an Indian explorer located a mysterious set of structures in Africa, obviously older than the most ancient human civilizations but in a state of excellent preservation. The investigator found strange writing and artifacts within. In the next several years, similar ruins were found all over the world, always

# Pele-3, 2000

## Current Affairs

The nations of Earth are expanding outward into the solar system using recently developed reactionless drive technology, searching for alien artifacts and knowledge.

## Divergence Point

5,000,000 B.C.; larger Pacific magma plume creates much larger Hawaii.

## Major Civilizations

Western (multipolar), Orthodox (empire with satellite states), Chinese (multipolar), Indian (bipolar).

## Great Powers

Deccan Confederacy (democracy, CR3), English Empire (democracy, CR4), Huachichil (dictatorship, CR5), Mitteleuropean Republic (democracy, CR4), Russian Empire (oligarchy, CR5), West African Union (democracy, CR3).

## Worldline Data

**TL:** 9<sup>A</sup> (superscience reactionless drives and force fields)  
**Mana Level:** No mana  
**Quantum:** 6  
**Infinity Class:** Z4  
**Centrum Zone:** Red

deep in inhospitable terrain: the depths of jungles, the peaks of high mountains, the burning hearts of deserts, and beneath the ocean waves. Nations across the world sought out these ruins as further discoveries of technological wonders within the sites came to light. Every power hoped to be the one to decipher the secrets of the ancient structures and utilize their power.

The first state to unlock the mystery did indeed gain powerful tools. The great breakthrough happened in 1780, in the Native American-ruled country of Huachichil (Coahuila, Mexico on Homeline). Huachichil had been the originator of the internal combustion engine. It parleyed its technological advantage into hegemony over much of what (on Homeline) would be northern Mexico and the American Southwest. Huachichil was fortunate to find several of the ancient sites in the deep deserts and high mountains. With the advantage of many sources to examine and capable scholars and engineers, Huachichil eventually deciphered the first elements of the strange script and reverse-engineered some of the simpler devices.

The discoveries were "shocking." Taking apart the strange devices revealed volumes of new knowledge about circuits, capacitors, batteries, and other fundamentals of electrical devices. Within a decade, Huachichil was able to upgrade its steam-powered technology to this new paradigm, with power generators supplying light and heat.

*Given the existence of unusual alien artifacts across the Pele worlds, it's quite possible that someone might activate something mysterious on Pele-2, and awaken "in the future" – on Pele-3! This can serve all kinds of plot possibilities . . .*

Huachichil – with an appetite for conquest already whetted by success with the internal combustion engine – went on another spree, pushing further into Central America. By the time an alliance of Native American, Chinese, and Spanish forces stopped them, the Huachichilean armies had gobbled up several city-states in central Mexico and were the undisputed masters of the north. Huachichil became the first Native American state to seriously challenge the Old World powers militarily, and the world took note.

Of course, the technology could not stay exclusively in Huachichil's hands for long. Even before the conquests began, spies had been busily stealing knowledge and equipment. The Mexican War demonstrated to all nations the crucial importance of unlocking the ruins' secrets. Researchers used Huachichil's translations as the basis for other deciphering attempts, and new scientific and engineering principles emerged from sites across the globe.

England became the next nation to take advantage of the new knowledge. The English Crown had long been in conflict with France over New World territories. In 1815, England began a war to control all of eastern North America, besieging French shipping with a new weapon: the submarine. This war also saw the first significant use of aircraft in a military role. The French desperately tried to upgrade their own military to keep pace, but these efforts proved too little, too late. They were forced to sign away the majority of their New World territories after half a decade of fighting. The new lands that were now open to England in the heart of North America were only sparsely mapped or settled, but English explorers – many flying long-range reconnaissance planes developed in the war – were quickly claiming as much as they could.

*It is my great desire to reform my subjects, and yet I am ashamed to confess that I am unable to reform myself.*

– Peter the Great

## THE TIGER, THE DRAGON, AND THE BEAR

The Old World was not immune to conflicts sparked by new technologies. The next great war would involve all three centers of civilization: Europe, China, and India. By 1810, the Russian Empire was eyeing the east greedily. Peter the Great had started the empire on a path to modernization in the 1700s, which proceeded even faster than on Homeline. Peter and the emperors who followed him completely eliminated the old Russian nobility over the course of a century, replacing the

feudal system with a network of state-run farms and factories. Upward mobility depended on managerial success. By 1810, Russia was a force to reckon with, and it began to contemplate expansion. The rest of Europe had been advancing as fast as Russia, making military adventurism there look unprofitable, but Central Asia and the Middle East were mostly under the control of small city-states and quarrelling kingdoms. The final impetus was provided by a new discovery in the Urals. A ruin revealed there gave the Russians a new medical advance: a treatment that greatly accelerated healing from wounds and infections (treat this as Ascepaline – see *GURPS Bio-Tech*, p. 152), allowing casualties of battle to be quickly returned to the front. In 1811, Russia launched a major new offensive against the ancient cities of Asia.

At first, Russia's advance was unchecked. Its soldiers marched through the Caucasus, across the Dardanelles into Turkey, and then through the Middle East. By 1820, the oilfields of both Georgia and Arabia were firmly in Russian control. Then the Russians turned east, and their leaders began contemplating entering Chinese and Indian territory, lulled by old myths of ethnic superiority. However, as the Russian forces moved eastward, a sufficiently strong opposing enemy force mobilized.

Neither China nor India had been idle in the past century. The Gaoyang Dynasty had been modernizing as aggressively as Russia, and its armies had been kept sharp and well trained due to the constant conflict with the south Chinese states. Meanwhile, Delhi – the premier state in northern India – had been preparing its own push into Central Asia in search of oil reserves. Both the raja of Delhi and the Gaoyang emperor had no intention of seeing an upstart European state with delusions of grandeur conquer Asia – both considered that *their* job!

India was the first to move, as the Central Asian city-states invoked old defensive treaties. Forces of the raja marched westward and met the Russians in the central hills of Iran in 1825. The fighting was some of the fiercest ever yet seen. Both sides were equipped with the highest military technology available: aircraft, internal-combustion land vehicles both small and large, explosives, radio, and deadly automatic weapons. The war bogged down in the rough terrain, a stalemate that claimed first thousands, then tens of thousands, and finally millions of lives.

At the same time, to the north, Chinese and Russian forces were clashing in a far more mobile war. The Gaoyang Dynasty had explored and claimed the eastern reaches of Siberia, attempting to locate ancient sites, but few of its citizens had settled there. Nevertheless, the Chinese empire would not countenance the Russian's obvious territorial ambitions there, and when Russian forces crossed the Urals, China mobilized to meet them. The Siberian front was vast and undermanned on both sides, with Russia's forces mostly tied up in Iran front, and the Gaoyang unable to divert too many troops away from their own borders, lest the cities of southern China take advantage. The Siberian War was Pele-3's first experience with truly mechanized warfare, and the strategies and tactics of mobile combat were largely developed there.

*Centrum has been less interested in the other Pele worlds than it has Pele-3. Adventurers who put in substantial investigative efforts on the other worlds might learn enough information about the cross-world weirdness to give them a definitive edge . . .*

The Asian War dragged on for a decade, until Russia finally sued for peace. It agreed to abandon all claims to Asia east of the Urals and the Caspian Sea, and the Middle Eastern territories were given nominal independence, although Russia still claimed them as “protectorates.” The Central Asian cities were largely incorporated into Delhi’s sphere of influence, while China retained Siberia, although it continued to do little to exploit the vast territory.

## THE LIGHT OF FREEDOM

On Pele-3, the heartland of democracy was not Western Europe but southern India. The Deccan Confederacy had begun as an alliance of city-states attempting to hold off their northern neighbors. Each major city sent a representative to the Confederation’s central *Sabha* (“meeting”) to determine policy. Initially, members of the Kashtriya warrior caste or Brahmin priestly caste served as the rulers of most cities. However, as the Deccan cities became more and more focused on commercial ventures, the Vaishya caste – the traditional merchants – became more prominent. By 1650, most of the Deccan Confederacy was ruled by local *sabhas*, modeled on the great *Sabha*. Initially, the electorate consisted of the Kashtriyas, Brahmins, and those Vaishyas who met a minimum property requirement. Over the course of the next century and a half, the franchise was extended again and again, first to more Vaishyas, then to the farmer/laborer caste, the *Shudras*. By 1800, every male in the Deccan Confederacy could vote.

This democratic largesse was not nearly so evident in the Confederacy’s African colonies. To be granted a seat at the *Sabha*, new members needed to pay a large “independence” fee to its controlling district. The *Sabha* based this fee on how much the new region had brought financially to its former ruler. African subjects could not vote in local governments in India, nor did they have the money to purchase their independence; the corporations that owned the colonies squeezed every penny they could. Only in South Africa, where enough private citizens had struck it rich in the diamond fields, were any new *sabhas* founded.

This state of affairs caused constant unrest, and the tension had reached the breaking point in 1820. The Sub-Saharan colonies declared their independence en masse. They created their own local *sabhas*, instituting a national African *Sabha* to coordinate the conflict they knew was coming. War did, indeed, arrive. The Deccan Confederacy was unwilling to allow such a vast territory to walk away without a fight. For over 15 years, Confederacy forces tried to resubjugate Africa again, while the colonists waged a guerilla war to remain free. Finally, by 1837, the Deccan government had had enough. They began an intensive bombing campaign, which culminated in the destruction of Nilagiri Parvata (Homeline Addis Ababa) in 1845. The final attack used a discovery extrapolated from new ruins: the atomic bomb. The eastern African colonies grudgingly surrendered. The colonies to the west of Lake Chad, however, had been effec-

tively self-governing for too long to be easily subdued. The Deccan Confederacy yielded to international pressure and formally acknowledged the western colonies as independent.

The success of the African independence movement inflamed democratic political sentiment worldwide. The Chinese colonies in the New World and Australia became hotbeds of revolutionary feeling. By 1870, the Hawaiian Chinese state in North America had a full representative government, with the emperor a constitutional figurehead, while Lu Dayou’s American colonies declared independence and established more-or-less democratic states.

## PEACE AND STABILITY

The next 110 years, from 1870 to 1980, were relatively relaxing. The grand conflicts of the past were apparently paved over, with advancing technology and social organization bringing more wealth and safety to everyone. During this period, scientists and engineers busily developed their own advancements and exploited the technology from the ruins. The first atomic detonation in 1845 effectively began TL7, and new advances quickly spread. Despite that horrific first use of nuclear energy, Pele-3 never developed the same level of distrust regarding atomic power as Homeline, with no Cold War to fuel paranoia. Nuclear power plants became generally accepted as the energy generator of choice, followed by renewable sources. Pele-3’s period of widespread industrialization was cleaner than Homeline’s.

By 1895, the general level of technology was TL8. Digital computers and networks provoked their usual radical changes in how people lived and worked, although Pele-3’s global networks remained far more fragmented than Homeline’s. Networks are a more specialized affair, designed to fulfill some particular function, and individuals subscribe only to the services they need or want.

In contrast, computer hardware progressed even faster than in Homeline. A portable multi-purpose device, capable of wirelessly linking to whatever networks a user subscribed to and performing a variety of functions, was realized within 15 years of the invention of the integrated circuit. West Africa became a hotbed of computer development and still retains a reputation for high quality hardware and software engineering. Ndakarou (Homeline Dakar) is the Silicon Valley and Seattle of Pele-3.

### *Hack to the Future*

Because of the lack of interconnectivity between networks on Pele-3, hacking on this world is much more difficult; the odds of one network being linked to any other are significantly smaller. Apply a -4 or larger penalty to Computer Hacking or other electronic intrusion rolls if an attempt is made from an inappropriate network.

*Those who want more detailed information about the early history of Pele-3 (of which Pele-1 and Pele-2 are somehow echoes), check out An Age of Sails from Pyramid #3/16: Historical Exploration for the very early history and The Map’s Dark Spaces from Pyramid #3/17: Modern Exploration for more recent times.*

*Just think – one day, the heavens will be the new frontier without laws and guns and just as people have crossed the prairie in covered wagons, they may cross the great prairie of space to the moon and look beyond. I wonder if then, perhaps, the moon, too, will change for us.*

*– Johnny Ringo #1.34*

The advent of serious genetic engineering produced major agricultural booms in several previously marginal regions, particularly the dry areas of Africa and the Central Asian steppe. It also produced large-scale aquaculture, particularly in the Bay of Bengal and the South China Sea.

By 1950, Pele-3 had moved into TL9, where it remains. This development is primarily a change in degree than in kind. More robots do manual labor; more vehicles are automated, and handheld and smaller computers are ubiquitous. Fission has largely been replaced with fusion, and high-efficiency fuel cells have supplanted the internal-combustion engine. The only completely new development has been effective *human* genetic engineering. Most nations have allowed genetic manipulation to prevent heritable disease, and simple cosmetic alterations are usually permitted, although often regulated. Deeper changes to the human genome remain extremely controversial. Cloning – even of transplant organs – is heavily stigmatized, and genetic engineering to create new features in humans or higher animals is almost unheard of. Only a few extremely lenient regions, such as the Free Cities of southern China, permit it.

The century of peace was not entirely without disruptions. Several new political players emerged, and some old states suffered setbacks or even outright dissolution. The most significant new arrivals were in Europe and Central America. The various states of Germany, Italy, and Switzerland unified into the Mitteleuropean Republic, in order to compete with the English, French, and Spanish empires economically and politically. The Republic began as a loose federation, but its central government gained power until it became a strongly united and centralized nation. The Central American states, led by the Chinese nation of Po Mao (Homeline Acapulco), formed an economic and defensive alliance, as a bulwark against the ambitions of Huachichil. Huachichil itself continued to expand northward, and a large section of the Great Plains of central North America is under its effective control, despite English claims.

While these new groups formed, the Chinese Empire evolved. Although the Gaoyang Dynasty had always been adept at keeping up with developments in technology and innovating its own, the imperial bureaucracy was considerably poorer at keeping abreast of political changes. The worldwide wave of democratic reforms in the 1800s swept up the Chinese peasantry and could not be stopped, despite the empire's best efforts. Starting in 1900, the Gaoyang faced greater and greater

agitation for representational government. The administration reacted with an alternating series of crackdowns and small changes, but by 1940, it became clear that the situation was no longer tenable. The last emperor voluntarily abdicated in favor of a newly elected parliament, and the "Empire of China" became the "Republic of China." The new government based its political systems loosely on the Mitteleuropean Republic, thus moving forward into democracy.

Unfortunately, the "bright new era" that was promised to the Chinese people failed to emerge. Regional factions began to agitate for more autonomy almost at once. As a result, wary foreign investors avoided the struggling new state. This, in turn, slowed economic growth and increased the populace's dissatisfaction with the central government, creating a feedback loop. China continued to wrestle with increasing internal problems throughout this period.

## NEW FRONTIER

The era of stability and slow progress broke down 20 years ago. It was in 1980 that a new ruin was discovered, the first to be unearthed in 93 years . . . and this site was different from all that had come before. Adelaide Marcon, an archeologist from the Mitteleuropean Republic, located a site in the Sahara desert that was different in almost every possible way. All ruins discovered previously had revealed, at best, high-TL8 levels of development. Devices and deciphered texts had proved helpful in advancing human technology, but not radically so, and no evidence of the origins of the builders had ever been found – only technical works. The Sahara site was simultaneously the first to have technology higher than TL8, the first to give a strong indication of where the builders came from, and the largest site ever uncovered (over four square miles).

The newly discovered location – dubbed the "Spaceport" by the international press – seemingly proved with certainty that the builders of the ruins had not come from Earth. Vehicles obviously capable of traveling into space still sat in various hangars, and information gleaned from the accompanying records indicated that there had been frequently visited locations in the solar system besides Earth. In addition to this wealth of information, the vessels themselves provided a windfall of technology. Their computer and power systems were roughly equivalent to Pele-3's existing designs, but the ships incorporated drives that were only barely comprehensible at first.

*Additional information on the state of science on Homeline can be found in the Homeline TL section (p. 23) of GURPS Infinite Worlds. In a nutshell, "Homeline scientists are lazy thieves."*



When scientists succeeded in reverse-engineering the ancient vessels, they discovered that the builders – now by general consensus considered aliens – had possessed *reactionless* propulsion, as well as the ability to project fields of force that could manipulate matter and energy. These new technologies allowed humans to develop truly practical interplanetary vessels of their own.

Previous to this great discovery, the nations of Pele-3 had had little interest in exploring the solar system. There had been no internationally prestigious “space race” to fire the public consciousness with dreams of extraplanetary conquest or colonies; rocketry programs mostly restricted themselves to lifting utility satellites into orbit. Pele-3 had lagged behind Homeline in its knowledge of the solar system, with only a few scattered unmanned probes ever being sent beyond the moon. This all changed with the new discoveries. Suddenly, humans had the technology to effectively explore space, which created an urgent motivation to do so. The major states rushed to implement interplanetary exploration fleets, as every power once again realized that the first to discover the secrets of the vanished race would gain the greatest advantage.

The moon was the first target. The Mitteleuropean Republic, with its technological edge, led the way. They established a base in Tycho Crater in late 1982, near the ancient site of another interplanetary spaceport. Russia, England, and Huachichil followed suit, setting up bases across the lunar surface and hunting for new alien sites. By 1986, all the significant powers of Earth had established a lunar presence, both to explore and as jumping-off points for the rest of the system. Although tensions between the space-faring nations grew, they did not erupt into open warfare over the moon. This was partly due to the rarity of alien remains on Earth’s satellite, but mostly because none of the great powers wanted to see a battle fought so close to home.

Despite the lack of international conflict, the colonization of the moon ultimately led to the end of one major nation. The Republic of China had been tottering almost since its beginning. The national government sank a great deal of political and economic capital into its moonbase program, raising expectations of vast new alien sites that would grant a wealth of technology. Unfortunately, ruins were particularly sparse in China’s territorial claims, although probably even an average number of alien discoveries would have disappointed the Chinese public. The boondoggle of the failed moonbase initiative brought down the Chinese government in 1986, and then the republic itself in 1987, as its various regions voted to separate. The territory on the moon was cast adrift, and the desperate colonists created the solar system’s first extraplanetary nation: the Chinese Lunar Free State.

Beyond the moon, Mars was the next goal. By 1990, the Deccan Confederacy, the West African Union, Mitteleuropa, and Huachichil had all claimed sections of the Red Planet. Several

smaller nations were either piggybacking on the existing colonies or making plans to form their own. Mars revealed many more alien remnants than the moon. Huachichil colonists in the Valles Marineris region uncovered a long-buried city, far larger than any ruin ever encountered on Earth. Dubbed the “Archive” for its large store of blueprints and astrometric data, it provided humans with their first comprehensive look at the aliens’ technology and gave hints to other locations throughout the solar system. Soon everyone scrambled to uncover more Martian sites. The revelation of a massive complex buried beneath the western slopes of Olympus Mons triggered the first war to be fought off Earth. In 1992, a Huachichilean expedition uncovered the entrance to the subterranean city nicknamed the “Labyrinth” for its intricate network of passages. It contained numerous new alien devices, including fusion-powered vehicles that could revolutionize travel.

## Other Peles

Infinity knows of three other timelines where increased volcanism has led to a larger Hawaiian island, all given the “Pele” designation. Pele-1 and Pele-2, along with Pele-3, form a curious anomaly within Homeline’s understanding of transtemporal physics. Pele-1 and Pele-2 seem to be echoes of Pele-3, similar to the echoes of Homeline that are found on Quantum 6, but not obviously connected to Homeline.

*Pele-1* (Q6, current year 1550) is undergoing its first great wave of exploration, as China, Europe, and India begin to spread out into the New World and Africa. (For more details about Pele-1, see *An Age of Sails*, in *Pyramid* #3/16: *Historical Exploration*.)

*Pele-2* (Q6, current year 1750), meanwhile, has just discovered the existence of the alien sites scattered through the world’s wastelands, and a new frenzy for exploring *terra incognita* has swept the world. (For more information about Pele-2, see *The Map’s Dark Spaces*, in *Pyramid* #3/17: *Modern Exploration*.)

*Pele-4* (Q4, 200,000 B.C.) is the only Pele world that isn’t obviously tied into the Pele echo system. The increased volcanism building the Hawaiian islands up has just ceased on this timeline, and Infinity agents stationed there are anxiously watching the skies in case the aliens are due to arrive on this timeline as well.

Unfortunately for Huachichil, the entrance to the Labyrinth was within Deccan Confederacy territory. The Confederacy rapidly became aware of the Huachichilean incursion and demanded that all technology be turned over to them. Huachichil refused, and both sides mobilized. The resulting war was short but painful. In 1994, fusion bombs devastated Huachichil’s main colony center, killing thousands and crippling the Huachichilean Martian administration. However, the Deccan victory rang hollow, since the Labyrinth had been bombed and mostly collapsed early in the fighting. Almost no alien artifacts survived.

*The ultimate resolution to the mystery of Pele-4 is left entirely to the GM – although if the heroes’ involvement with the three Pele timelines has been elaborate and involved, a more spectacular resolution is probably justified from a dramatic standpoint.*

While battle waged on Mars, other states looked toward the sun rather than away. Although England and Russia led in the earlier expansion by establishing lunar bases, they had been effectively shut out of the Martian rush while they focused on searching for lunar artifacts. Both nations needed another avenue to regain their edge. Starting in 1993, they each sent a number of expeditions into the inner solar system. The empires' hopes in finding new alien sites were disappointed; Venus and Mercury seem to be barren of any signs of prior habitation. However, the inner worlds have not proved a total loss. Mercury revealed extensive mineral deposits, and it is anticipated that the planet will become a major industrial center (once the inherent difficulties of operating there are resolved).

Meanwhile, Venus supplied perhaps the largest surprise yet. Astronomers had long known that planet was totally shrouded in dense clouds and assumed its close position to the sun meant it was locked in a ferocious greenhouse effect, too hot for human life. The first expeditions proved this entirely false. A primitive yet thriving ecosystem existed in the Venusian clouds, moderating the heat of the atmosphere and reflecting a great deal of energy back into space. In fact, Venus seems poised to become fit for habitation – its vast quantities of water vapor in the air have reached the point where they are condensing and raining down in vast storms, filling a previously dry landscape with seas and rivers. Both England and Russia have established colonies on the surface. They are now looking into accelerating the conversion of Venus into a livable world.

## OUTWORLD OPERATIONS

Infinity treads most lightly on this timeline of any of the Peles (see p. 9). The usual problems of technology higher than Homeline are all in force. Of course, Pele-3 doesn't have Shikaku-Mon's contingent of hobbyist spies or Caliph's purely terrifying level of ultra-technology. Pele-3 is close enough to Homeline that most science is comprehensible, and it is a good candidate for stealing designs from, although the stranger principles of ruin-based technology have proven inapplicable

except on the Peles. However, Pele-3 does have two dangers than keep Patrol administrators awake at night.

First, their scientists are extremely skilled at reverse-engineering bizarre technology from even the smallest fragments. The slightest trace of parachronic equipment could lead them to functional conveyors within months.

Second, Infinity has good evidence from the other two main Pele timelines that the beings from Pele-1, Pele-2, and Pele-3 are not merely echoes of one another, but a *single civilization* that somehow spanned three timelines, possibly with technology that allowed them to artificially establish the parallels as echoes of each other. That level of parachronic development is beyond anything Infinity considered even theoretically possible. The governments of Homeline are terrified that the aliens will turn up somewhere alive. That would be a disaster as far as Homeline is concerned.

Almost all Homeliners on this world are involved with space missions. The Patrol tries to infiltrate every journey of significance and has agents scattered throughout the off-world colonies, with strict orders to sabotage any discovery that even hints at parachronics.

Centrum, meanwhile, considers this the best prospect of all the Pele timelines. The world is high-tech enough that it would be a valuable economic addition to Centrum's cross-time empire, and Interworld has a more optimistic attitude toward the parachronic technology of the aliens. The idea of being able to do large-scale timeline engineering makes Interworld agents salivate, and Centran scientists have already worked out several theoretical models that could explain the aliens' abilities. Their agents in the off-world colonies have orders to look for any signs of parachronic technology and retrieve it, while denying it to the natives. Centrum also feels that a number of the nations of this timeline are ripe for subversion. In particular, they like the strongly meritocratic English Empire and the technology-heavy West African Union and Mitteleuropean Republic. They also see the fragmented China as fertile ground for building a new puppet-state from the ground up. Centran agents are busy on Pele-3, and it sometimes seems (to overstretched Patrolmen, anyway) that they have three times the agents in place as Infinity.

# ADVENTURES IN THE FUTURE

Like its alternate-timeline counterparts, much of the adventure potential of Pele-3 focuses on various types of exploration. However, on Pele-3, the sky isn't the limit – it's a new frontier!

## SMALL WORLD AFTER ALL

Although humanity is rapidly expanding into space, Earth is still the home of 99% of the solar system's population, and it is by no means a placid backwater. Old conflicts are still played out on the homeworld, and new battles are brought there from the colonies.

The Deccan Confederacy is the wealthiest state on Earth, and its citizens are notorious for considering it the most cultured, artistic, and morally upright as well. Propaganda aside, the Confederacy is certainly prosperous and its citizens are largely content. East Africa is still within the Deccan state, now granted full representation in government. To the north, Delhi has been falling under the economic sway of the Confederacy as well, and there is a movement toward political unity. Deccan culture is still strongly Indian, although Chinese and African influences are obvious. The population is fairly secular, but both Buddhism and Hinduism remain viable traditions.

*GURPS Tales of the Solar Patrol (available on e23) is a setting with a similar style of technology. The GM and players may find it a useful source for character concepts, setting details, and adventure ideas.*

## What Do the Aliens Look Like?

Unfortunately, the answer to this burning question is still “no one knows.” The aliens seem to have had some sort of cultural taboo against images of themselves. In all the unearthed writing and artwork, nothing describes the aliens’ physical form or even much about their culture. Some extrapolations can be made from their artifacts, however.

The beings seem to have been roughly the same size as humans, judging from control capsules and other personal spaces. However, they must have had a significantly different posture, as evidenced by the typical entrance to their buildings being just over three feet high. They apparently also had at least four manipulating appendages, all with

more independently controllable digits than humans, given the controls of their devices.

The aliens were clearly from a planet of similar gravity to Earth’s, since they were able to live on the planet with no signs of gravity-alteration technology. However, biologists speculate that they must originally have come from a planet notably colder, since they apparently were able to live on Mars without temperature controls. What sort of atmosphere, if any, they breathed is a mystery – no sign of breathing-apparatus technology has ever been discovered, but it is difficult to imagine a species capable of breathing both Terran and Martian atmospheres unaided!

The West African Union still has a strong rivalry with the Deccans, stemming from the Union’s history as an Indian colony. The competition is primarily friendly these days, although the citizens of the Union are often willing to believe the worst of the Confederacy when it comes to stories of oppression. The West African Union has a strong economy, focusing on resource extraction and the computer-technology sector. Culturally, they are an equal mix of Indian and African, with syncretistic Buddhism as the primary faith, although there are numerous Christian sects on the west coast.

England is the premier power in Europe, although most of its territory actually lies in North America. It is a constitutional monarchy, as in Homeline, although the Crown has somewhat more effective power in this England, with the ability to veto unpopular legislation. The English approach to colonization has been consistently the most organized of any of the great nations. As a result, its North American possessions have been integrated smoothly and efficiently into the empire. England is now coming into serious conflict with Huachichil along its western borders, and a war over the heartland of North America may begin soon. Culturally, England is fairly self-contained – most of its citizens are Christians, and the artistic influences from outside are minimal.

The Mitteleuropean Republic is the economic powerhouse of mainland Europe. It far outstrips the fading empires of France and Spain, and dominates the small states of eastern Europe that Russia does not. Mitteleuropeans focus on manufacturing to fuel their economy, trading for the raw resources that they are short on. The Republic is a melting pot of cultural influences, from the European Christians that make up their core population, to African and Indian Buddhists, Hindus, Orthodox Christians, and even Confucian touches from China. Mitteleuropeans consider England as their greatest commercial rival, but they regard Russia with a certain degree of suspicion due to the Russian’s obvious territorial ambitions.

Russia still struggles to throw off the impression of coming third in the European race. The Russian heartland is commercially strong, with a diversified economy that includes mineral and oil extraction, manufacturing, and high-technology fields – particularly genetic engineering. The empire is ruled by a

strongly technocratic central government, with top administrators drawn from the ranks of successful managers, entrepreneurs, and tycoons. This gives their international affairs a strongly mercantile cast, and the standard stereotype is that every Russian is out to make a buck. Unfortunately, success in Russia proper has been counterbalanced by failure in the “protectorate” territories of the Middle East, which are rebellious, fractious, and a constant drain to administer. The cultural contact, however, means that Russia has almost as many Muslims as Orthodox Christians.

Huachichil is aggressive and expansionistic. The nation is ruled by an extreme nationalist dictatorship, which tries to distract the populace from economic woes at home by drumming up anger against foreign foes. The Huachichileans are engaged in an ongoing border dispute with the English in North America, and they try to dominate the smaller states to the west and south of them. They especially have been eyeing the Chinese nations on the west coast, since the dissolution of the Chinese Republic and the withdrawal of its protection. The state’s primary cultural influence is Native American, although Spanish and Chinese strains are strong.

*Knowledge is power, but enthusiasm  
pulls the switch.*

– Ivern Ball

## FLY ME TO THE MOON

Earth’s moon is the second-most cosmopolitan body in the solar system. Every space-faring nation has a presence on the satellite – it is widely considered the “doorstep of outer space.” England, Huachichil, West Africa, the Deccan Confederacy, Russia, and the Mitteleuropean Republic all claim significant territories. The Mitteleuropean colony is the largest, with the spaceport in Tycho Crater serving almost 50% of lunar space traffic.

*A magical explanation for the Pele mysteries (p. 13) can justify the introduction of material from GURPS Thaumatology.*

There is one other significant presence on the Moon: the Chinese Lunar Free State. The Free State – the colony that declared its independence after the breakup of the Chinese Republic on Earth – has staked out a niche for itself in interplanetary trade. Its commercial restrictions are minimal, and the Free State is a flag of convenience for 80% of private spaceships in the solar system. Citizens make a living hiring themselves out as experienced space hands for all sorts of expeditions, commercial ventures, and construction projects.

It is not the only lunar colony to focus on serving the needs of the solar system, merely the most dedicated. Earth's moon has a relative scarcity of resources, either material or alien technology (the search continues, but the pickings are very bare). Instead, the lunar colonies provide administrative services for the scattered pockets of humanity spreading out from Earth. In particular, most of the habitats and industrial stations in Earth orbit have headquarters on Luna. In addition, the moon provides an extremely popular tourist destination. Residents of Earth can travel there to experience "life in space" without having to fly for weeks or months, and the various orbital-habitat residents can go to the moon to stretch their legs; the large spaces available on the lunar surface allow colonies to expand outward, as opposed to the cramped conditions of the habitats.

*Observers of Mars are divided into two camps, those who see the canals, and those who do not.*

*– Robert Ball, Popular Guide to the Heavens*

## MARS, PLANET OF WAR

At present, Mars is the body of the solar system *least* suitable for tourism. Tensions between the great powers have erupted into war once within the last decade, and all signs point to more battles on the horizon. The West African Union occupies Hellas Crater, the Mitteleuropeans hold the Tholus region, and the Deccan Confederacy resides in the Amazonis Planitia and the western side of Olympus Mons. Huachichil used to have a strong presence in the Valles Marineris region, but their Martian colony was almost obliterated in the war six years ago. Since then, the Deccan Confederacy has been throwing its weight around, mostly in an attempt to force the Mitteleuropeans to concede territory along their mutual border. Meanwhile, the Huachichileans have been rattling sabers back on Earth, claiming that the use of atomic weapons on their colony was a war crime. Given their territorial ambitions and ongoing conflicts with England over North America, their protestations of outrage have mostly been ignored. As a result, Huachichil's nationalist dictatorship is seething for a rematch

with the Confederacy in order to win back some pride. They have slowly built up a new colony on Mars; they obviously have plans for offensive action, given the military personnel they are shipping out.

Meanwhile, the civilian populations of the Martian colonies try desperately to ignore the building tensions and get down to what most of them see as the real job: unearthing the alien remains. Mars was clearly a major center for the aliens. Over 15 large sites have been discovered, most with significant technological finds. Although only the Archive is as large or as lucrative as the destroyed Labyrinth, significant discoveries have come to light. Another source of the compact fusion generators have recently been uncovered and promises to revolutionize small-scale transport. Perhaps most significantly, two months ago, the West African Union found an alien site with a partially functioning computer, the first such discovered. Unlocking the system promises not only great insights into the aliens' civilization, but the programming may hold the key to true artificial intelligence.

## TAKE ME OUT, INTO THE BLACK

Everyone knows that the best place to find more ruins is "outward." Alien charts of the system focus on the gas giants and give short shrift to the worlds inward of Earth's orbit. The most likely places for significant discoveries are the moon systems of the great planets. However, this is a frontier that has been slow to open. Thus far, reactionless thrusters are only capable of hundredths of a G of acceleration, which puts even Jupiter several weeks from Earth; further worlds are months or more away. Also, the conditions around the gas giants are often hostile, with intense radiation fields and crowds of debris making navigation difficult. Engineers have steadily worked on these issues, and it seems that they have finally cracked some of them. New advancements in force-screen technology now allow for shields effective against both radiation and physical impact, without the need for massive amounts of physical armor, thus enabling more room for supplies and engines. The major players are gearing up for a new push into the outer Solar System.

Once the explorers reach the moons and asteroids that orbit the gas giants, they will find new alien settlements. Their first two tasks will be searching such discoveries for new marvels to send home, and documenting the site. Would-be explorers must contend with the natural (if extreme) hazards of the environment. Human technology is not yet up to the challenge of building easily man-portable force screens, so explorers must dress in bulky spacesuits. They also need to contend with other humans. No effective way of "stealth" a space vessel has yet been determined, so rivals will observe any mission to another world – and possibly pursue. If an exploration party finds anything significant, opponents may attempt to remove the secrets before the original team can. Foes may also intercept a group on its homeward journey and simply steal the information gathered.

*For more inspiration about the Red Planet, check out GURPS Mars, including information and possibilities about Martian colonies.*

## A Magical Solution

Some of the more wild-eyed theorists in Paralabs have proposed a radical answer to the question of how the aliens managed to align Pele-1, Pele-2, and Pele-3. Rather than a technological solution, they have proposed that the cross-timeline contact was established *magically*. They point to the fact that the ruins on Pele-1 and Pele-2 are more magically active than their surroundings, and that no evidence of parachronic technology has yet been discovered on any of the three timelines. Within the last six months, new information has come to light suggesting that there may be something to this. Pele-3 was first thought to be completely mana-free. However, during an ISWAT operation, an agent with magical aptitude and training in the Cabalist Decanic system visited a Brazilian ruin. She thought she detected a slight mana fluctuation and decided to try spellcasting, as she was currently in a desperate situation. To her pleased surprise, a spell that invoked a significant amount of Decanic lore was actually successful. Investigation has since determined that

within the area of the ruins, both on Earth and in space, Pele-3 does have mana. It is very low mana, however, and has an odd “twist” to it that makes it dangerous to cast spells there, even when the caster has enough skill to overcome the large penalties. (In game terms, the ruins on Pele-3 are considered areas of very low, wild mana – see *GURPS Thaumatology*, p. 59.)

If the parachronic anomaly of the Pele timelines is in fact caused by magic, it would be incredibly significant. It would give Homeline a major advantage over Centrum on these timelines, since Infinity is more comfortable with and willing to use magic. However, the Cabal would immediately become interested, and they are better positioned to study and make use of magic on low-mana timelines than Infinity is, due to their mastery of the Decanic system. Any hint of a spell, ritual, or artifact capable of manipulating timelines on this sort of scale would send everyone scrambling to claim it, and it would have immense implications for the parachronic war.

## GOLD IN THEM THAR WORLDS!

While the major push has been outward, belatedly there has been a significant interest in the inner planets. Mercury is seen as a major potential source of heavy metals, if the difficulties of operating so close to the sun can be overcome. No nations have organized any attempts to mine the inner planets, but several corporations are studying the feasibility of private operations. Meanwhile, many independent prospectors have attempted to become wealthy by flying to Mercury, finding a rich vein, filling their holds, and returning to Earth to sell the load, avoiding the logistical problems of long-term mining. Such independents have to contend with all the dangers of any resource-rush situation: The inner solar system is poorly policed at best, and claim-jumpers, corrupt assayers, and outright banditry are rife.

## A WORLD OF STORMS

Venus is seeing more development than Mercury. England and Russia have established colonies on the world’s surface, and several other great powers are contemplating doing the same. The Venusian landscape, while much more livable than its Homeline equivalent, is hardly inviting. The average temperature is 104° F and incredibly humid. Even at the poles, humans swelter. The rain is heavily laced with sulfuric acid, as millennia of atmospheric contaminants are washed out. Structures must be carefully coated with acid-resistant materials or be eroded away.

Despite the harsh conditions, humans are establishing a presence here, eager to be in on the settlement of the first world besides Earth whose surface will be habitable without special equipment. Colonists continue to map the terrain of Venus, trying to control the natural reshaping of the landscape

and searching for locations for permanent settlements. Scientists are examining the primitive life that is converting Venus from a baked hell into a living world, and they have considered using genetic engineering to introduce new species to accelerate the process.

*Western civilization, unfortunately, does not link knowledge and morality but rather, it connects knowledge and power and makes them equivalent.*

– Vine Deloria, Jr.

## ABOUT THE AUTHOR

Kelly continues to enjoy writing for *Pyramid* magazine, and hopes to continue for the foreseeable future. He lives in Saskatoon, Saskatchewan, and works there in between gaming sessions.

# CLOSE ENCOUNTERS OF THE UNWANTED KIND

BY J. EDWARD TREMLETT

When humanity pushes out of its cradle and into the long, yawning gulfs between stars, it will do so knowing that each step its explorers take past the Oort cloud will be fraught with the dangerous unknown. Simply put, humanity will be embarking on a journey that no map can truly prepare anyone for, facing crises and uncertainties that no amount of planning will truly counter. It will be the greatest adventure in history, but also the most dangerous and terrifying.

Especially if explorers meet the wrong galactic neighbors first.

Science fiction is replete with otherworldly enemies, alien encounters gone wrong, and strange beings whose mere presence brings confusion, madness, and death. Some aliens can be fought off or bargained with. Some desire nothing but subservience or annihilation. Some cannot even be fathomed – merely fought or avoided altogether.

Presented here are five generic examples of mysteries and dangers humanity might meet in deep space, usable in any exploration-base sci-fi setting. There are ancient conundrums, puzzling annoyances, minor threats, highly hazardous situations, and entities that defy easy description. They are presented from least to most dangerous, along with a listing of their cultural strengths and weaknesses. Although some entries presume previous contact with other alien species, this can be tweaked or ignored.

## THE OBELISK MAKERS

When humanity started truly colonizing the solar system, it began to find odd structures on certain rocky moons of the outer planets. Curiously regular outcroppings of stone were revealed to be the crumbled remains of 10-foot-tall obelisks,

carved from the material native to those moons and placed in odd groupings of three, four, and seven.

Authorities hushed up news of the discovery while bringing in scientists to examine the strange structures. Those persons – the first true xenoarchaeologists – were able to confirm they were artificial structures, millions of years old, but they were not able to determine much else about them, other than the interesting relation between numbers ( $3 + 4 = 7$ , possibly indicating a base-seven form of counting).

It would not be until humanity stepped on Eris – finding several clusters of intact obelisks – that the true magnificence of the structures could be appreciated. The clusters revealed piezoelectric qualities when touched, producing regular electric oscillations that changed in pitch depending on where the stones were touched and for how long. Scientists studied them intently for decades, but no one was ever able to determine if the electrical activity was a navigational beacon, a communications device, both at once, or something else entirely.

The mystery only deepened when extraterrestrials made diplomatic contact, many years later. The confederation of alien races admitted to having been behind certain hitherto-unexplained phenomena – numerous “sightings” and monuments left on Earth were, indeed, theirs – but they could not take credit for the obelisks. In fact, they had discovered similar obelisks within their own space, untold ages ago, and were equally puzzled as to their true origins and functions.

Even more ominous was the fact that the obelisks stopped in the solar system. They went from the furthest, oldest reaches of the eastern spiral of the Milky Way to the Sol solar system, where they apparently terminated at Neptune’s moon of Larissa. No more have been found past that point, even though other civilizations exist beyond humanity’s birthplace.

*For a mystery-adventure, get GURPS Classic: Mars – Rescue Mission, set in the early days of colonizing the Red Planet.*

Where, then, are the obelisks' builders? Did they tire of their task and give it up? Are they sleeping in the solar system, perhaps within one of the gas giants, or buried within one of the moons? Did they die out or change physical states? Perhaps they left this galaxy altogether, choosing to explore elsewhere in the cosmos . . .

None of the aliens humanity has encountered can answer these questions with any certainty. However, they do have myths and legends of their own, and in the ancient tales of those races who preceded even the oldest among them, there is word of those mysterious builders.

Some legends say they were truly ancient voyagers who traveled from system to system, quietly observing the first stirrings of life and then moving on, hoping to return one day to see what had happened. However, darker legends exist – ones that speak of the obelisks being the means by which a great, hungry swarm of beings will one day find nourishment across the dark gulfs between the stars. For there are areas where there are obelisks, and life thrives, but yet there are places where obelisks stand sentry over graveyard planets, where mighty civilizations died out seemingly overnight, leaving no clues as to the reasons of their demise.

### *Analyzing the Obelisks*

The creators of these strange artifacts – almost certainly a forerunning alien species of some sort – obviously possess (or have access to) ultra-high technology. It is possible that the creators are somehow tied to long-term hibernation, which may itself be connected to the obelisks.

## THE PROVIDERS

Humanity's first encounters with the untrustworthy beings known as the Providers predates official alien contact. It is clear that many of the stories about "little green men" and their antics on Earth were their doing. The only mystery is why they left the solar system after the 1970s, soon to be replaced in popular and subversive culture by the "Greys," who, conversely, did *not* exist after all.

The Providers came back into humanity's affairs during the time of the first great push outward, when sleeper ships were launched at nearby stars in order to found colonies. A troubling number of these vessels did not make it to their destinations, and, while navigational errors and accidents were blamed – and there still remains the hope of finding an intact sleeper, far off course – it has become clear that many of the missing spacecraft were intercepted by these foul beings. The arrest logs of stellar peacekeepers and alien navies have extensive records of the Providers trafficking in an "exotic" new species of alien to less-scrupulous races – a species that was clearly human.

Providers prefer to hide in the shadows, both to avoid identification and to seem more physically menacing than they appear

to be. They are short and slight humanoids, with an average height of three feet and limbs only an inch thick at the joints. Their skin color is a light, mottled green, they have six long, skinny digits on their hands and feet, and no discernable reproductive organs (they reproduce asexually). Their heads are their most interesting feature: big and bulbous, with two large, protruding eyes with large pupils; no nose; and a small, puckered mouth, which is capable of audible speech and taking in nourishment. They smell and hear with the same organ, which lies above each eye like an arched, immobile eyebrow.

No one is certain exactly where the Provider's homeworld is, or what name they chose for themselves. That is probably just as well, as most law-abiding interplanetary governments consider the race to be galactic pests. The Providers exist at the far edges of civilization, in regions where barter is the only law and no one cares about the provenance of what – or who – they're buying. Those who frequent such places know that if they need slaves, exotic bio-weaponry, or foodstuffs that scream, go to the Providers. They also know that no one should ever go to them alone or unarmed, lest he wind up for sale on the next world over.

If the Providers have one saving grace, it's that their bio-tech is considered the best in the galaxy, possibly due to their willingness to carve almost anything up to turn into parts. Their ships (the "flying saucers" of Earth legend), beam weapons, translators, and other devices are all clearly *alive* – pulsing, respiring, self-repairing biological artifacts that bleed when they break. Their energy weapons are truly hideous things, as they can paralyze a target or disassemble it into thick, gooey liquid, the better to be scooped up and "repurposed" into spare parts or new bio-tech.

Another note of warning: They consider the human body to be a biological goldmine. This fact makes trying to make a deal with them a very risky proposition. It is highly recommended that humans approach them through intermediaries, if at all.

### *Probing the Providers*

The Providers possess an exceptionally high skill with the creation and usage of bio-tech, which can provide an enormous opportunity (or danger) for those willing to deal with them. Their hidden homeworld may also possess interesting secrets, for anyone brave (or foolish) enough to try to discover them.

Those who encounter these aliens may offset the Providers' technological advantages by taking advantage of the species' awful social reputation and their physical deficiencies.

## THE GODS OF PANGAEA

Possibly the strangest – and most ominous – first contact situation humanity ever had was with gods it had long since forgotten.

*Perhaps the Black Chamber (from Pyramid #3/5: Horror & Spies) or the Black Box (from Pyramid #3/16: Modern Exploration) still exist in the future and still investigate bizarre creatures and events.*

On an Earth-sized planet on the eastern spiral, a colony ship encountered a “paradise planet,” seemingly perfect for human purposes. It had vast, blue oceans and lush forests, and was teeming with animal life of every variety. However, it also showed signs of previous habitation: massive, mostly intact stone cities whose architecture seemed vaguely familiar to the colonists.

About a month after settling the surface and determining that its habitability factor was excellent, the scientific survey teams began a truly detailed exploration of the nearest city. Once they set foot inside its central structure – a massive temple-like ziggurat – they were surrounded by massive, luminous beings that appeared as strange, multi-limbed mixtures of reptile, fish, and insect. Those who came within their presence automatically and uncontrollably genuflected to them, as though they were among the angels.

The beings identified themselves as the ancient gods of Earth, and were pleased that their “children” had – at long last – come to find them. Curiously, the xenanthropologists within the crew were clearly puzzled, as these “gods” did not match any archaeological or historical record from Earth. However, they clearly evoked some kind of familiarity within the minds of those they encountered, just as the structures had done, and those who “recognized” them were compelled to obey their every word.

### *Grappling the Gods*

Regardless of their secrets, this forerunning species has an exceptionally high level of technological prowess. They also seem to possess long-term hibernation and/or immortality, as well as a limited ability to control the minds of those whose species they have had contact with in the ancient past. Their vanity and neediness may be exploitable by those they encounter.

It would not be until those scientists realized that the gods had visited Earth almost 250 million years before, during the Paleozoic Era, that the mystery was solved. These beings had clearly established themselves as deities to the dominant species of the time, seeding the species with racial memories of them and their distinctive architectural styles. Then they’d left, and a short time later the Permian-Triassic extinction event wiped out most life on Earth, leaving only shreds and scraps of what had thrived just a short time before to carry on.

The gods were not pleased to be dismissed so scientifically and declared an end to such “idolatry” among their lost children. The aliens instituted a pogrom, and under their stern control, almost 65% of the colonists wiped each other out, either under “divine” orders or while denying them. Fortunately, the artificial intelligences on board the colony ship were able to institute a return flight home, warning the nearest outpost of the dangers on that planet.

When the navy sent a battle cruiser to deal with the “gods,” the entities were gone, along with their ancient structures, the

colonists’ landing ships, and any surviving colonists. Except for the burned and defiled remains of those who’d defied them, there was nothing left to mark that the gods of ancient Earth had ever been there. Ultimately, the navy put the system under ultra-black quarantine, scattered atomic mines around its edges, and left, hoping never have to go there again.

That was over 50 years ago, and the Gods of Pangaea have not been encountered elsewhere since. All colonists since then have been warned to avoid “perfect” planets with seemingly abandoned stone cities that look vaguely familiar.

## **THE BLOOM**

The mostly ocean planet was known only as 346-A-763 to the race of highly advanced enablers that visited it, 200 years ago. They dove into its depths in search of usable water and mineral treasures, discovering there was a powerful but unintelligent race of large “jellyfish” near the head of the ocean’s food chain. In need of indigenous labor, they uplifted the lot of them; they gave them true (if limited) intelligence, plus the ability to use the psychically attuned machines that formed the backbone of their technology.

In keeping with standard operating procedure, the exploiters also installed an obedience trait in their new servants. However, certain aspects of their new slaves’ ever-adaptive genetic makeup soon turned that trait upside down. Within three generations, the jellyfish rose up under the leadership of the most daring among them, took control of their masters’ machines, and drove the visitors off-planet.

By the time their former masters sent a punitive expedition to deal with the upstarts, the jellyfish had figured not only out how to make the psychic machines build spacecraft, but actually improved on their former masters’ warship design. As a result, the punitive expedition was routed all the way back to the enablers’ home planet, which was then transformed into a habitat suitable for their conquerors. Then every planet that usurious race had conquered was similarly attacked and transformed. Within a generation their breeding grounds were well-established, and they set off in search of more planets to convert.

That cluster of stars is now an empire of highly adaptable, fast-breeding, and aggressive jellyfish. Having conquered as far as they cared to travel, they have collapsed inward slightly; various colonies seek to breed better armies, so they may dominate other strains throughout the system. One particular strain has concluded that the time has come to expand, believing they should direct their machines to create vehicles that can send them out further into the galaxy, enabling them to bring the universe under their control.

The jellyfish have a cap about three feet high and 10 feet in diameter, which varies in color from strain to strain. They also have numerous thin 30-foot long tentacles capable of producing electric shocks, operating equipment, and holding weapons that better channel the electricity. The adaptation that gave them the ability to operate the machines made them telepathic, which provides their sole mode of communication. Their spacecraft now resemble massive jellyfish, with long tentacles capable of grappling and ripping apart other ships.

*The Bloom could serve as a truly epic extraterrestrial threat to the denizens of GURPS Classic: Blue Planet.*



The jellyfish are rather single-minded. They have no concept of literature or art, preferring to act – and, by extension, conquer and breed – rather than reflect. Leadership is determined by whomsoever does the most daring thing and lives to tell about it, thus creating a truly superior spawning . . . and among the most daring acts is a sneak attack on an alien vessel, which will make first contact with the Bloom a very hazardous thing.

### *Jarring the Jellyfish*

The Bloom are telepathic and possess an advanced level of thought-controlled technology. Perhaps most dangerously in the long term, they breed very quickly.

Although they are dangerous, they do have limitations. Their biggest flaw seems to be their lack of imagination; that is one of the reasons they are so reliant on others' technology. They are also very aggressive, which is either a strength or weakness depending on the situation.

## THE PERSONALITY PLAGUE

Not long after the first great push outward had ended in partial success, and humanity had established itself on a dozen or so worlds, colonies established trade and travel between each other. Trips between systems might take years, depending on how far afield they were, and would ultimately prove impractical given the distances involved. However, at the time, it was considered highly important for human colonies to remain in some semblance of physical contact with one another, so as to not lose their "perspective" while out among the stars.

It was a romantic notion that could have wiped out the human race.

On one particular colony, furthest out from the others, certain psychological irregularities were reported. People began to act strangely: not showing up for duties, not socializing with old friends, not attending certain activities that they previously enjoyed. When asked if anything was wrong, they said, "Everything's fine – just fine."

At first, it was just a few people, then more, then most. Then the colony stopped broadcasting daily progress reports to its fellows. It was hoped that there was just a glitch in their communications system, but when they didn't come back online after a few days, the other colonies assumed the worst. They told the regularly scheduled trade vessel – close to arriving on the seemingly stricken colony – to perform a rescue mission.

The traders landed and found the colony in a state of bedlam. There were signs of a massive struggle: bodies everywhere, burned and broken machinery and computers, and no survivors. However, they only found bodies for half the colony; the other half's personal transponders were all stacked in a heap in the common room, which meant they could be anywhere within the base or outside.

Within 48 hours the traders had their solution, but it was not what the other colonies wanted to hear. The medical officers' logs revealed that the colony had contracted a highly virulent plague with no physical symptoms. Those who were infected had their brain chemistry drastically changed in a way that even the chief doctor among them couldn't fully understand, except noting that those with the plague were no longer

the people they once were. It was as they had caught an alien personality – one that retained all memories of the victim. Once enough colonists were infected, the victims dropped their facade and went on the offensive.

The doctor begged anyone who found his final warning to do "the right thing." Fortunately for humanity, the trader ship's captain had both a practical mind and a strong constitution. He realized that his crew was in danger of contracting and spreading the disease, and just because he was resisting it now didn't mean it wouldn't infect him later. He also realized that the other half of the colony that was unaccounted for was probably out there, watching and waiting for them to lower their guard. Just before he sent his report, he instructed his ship's AI to cause a cascade failure in its nuclear engines – vaporizing the ship, the colony, and everything else within a five-mile radius a few minutes after his last transmission. The plague started and ended there.

The doctor's files were borne out by other races humanity has since made contact with. It is an airborne virus of unknown origin, attacking carbon-based life forms with respiratory systems that thrive in oxygenated atmospheres. Those who contract the plague have their personalities erased and replaced with a hostile, outside entity that uses the victim's changed brain chemistry to take a foothold within the body. The plague often strikes after large meteor showers, or when visitors land on certain sufficiently oxygenated planets that have been infected.

What do the outside entities want? No one is certain, but what little communication has occurred with the infected indicate that they come from "outside this galaxy," and desire to replicate their homeworld here. A few examples of their cobbled-together technology exist in heavy lockdown, but their exact uses are unknown as no one dares to experiment with them. The plague can be "cured" by changing the brain chemistry back to normal, but the original personality is dead and will not return. When personality transfers are not available, many consider it kinder to kill the victims.

### *Policing the Plague*

Like many contagions, the "personality plague" is invisible without specialized detection equipment. Its invisibility combines with its fast breeding to make it a truly dangerous threat.

Fortunately, it is often curable – although at a cost. (From a game standpoint, the ability to play an old character with a totally different, new, or blank personality may be a great opportunity.)

## ABOUT THE AUTHOR

By day an unassuming bookstore clerk, J. Edward Tremlett takes his ancient keyboard from its hiding place and unfurls his words upon the world. His bizarre lifestyle has taken him to such exotic locales as South Korea and Dubai, UAE. He is a frequent contributor to *Pyramid*, has been the editor of *The Wraith Project*, and has seen print in *The End Is Nigh* and *Worlds of Cthullu*. He's also part of the *Echoes of Terror* anthology. Currently, he writes for Op-Ed News, and lives in Lansing, Michigan, with his wife and three cats.

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Fourth Edition

# SPACESHIPS 5

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# RUINS AND MORE

In an infinite universe, no matter how much space you explore, there's still some left! The following pages create a "metagame" for an adventure (or campaign) that revolves around exploration. The premise is that the heroes are somehow scoping out the land, trying to find Something Interesting.

## THE CARDS

There are three kinds of cards presented: Natural Feature cards (p. 20), Ruin cards (p. 21), and Blank cards (p. 22). What these cards actually represent depends on how the group uses this system. While you're limited by your imagination, but here is an idea to get you started (see p. 39 for another).

## THE HILLS HAVE IEEEEES!

*Setup:* First, the GM shuffles together Ruin cards and Blank cards – however many he wants to represent the size of the geographical location. (For example, if he's designing a 6x6 grid, he needs 36 cards total; make as many copies of each type of page as you need.) The ratio of Blanks to Ruins is up to the GM; the more Ruins, the more likely someone is to find something interesting. The GM then deals the cards *face down*. (It's up to the GM whether or not he looks at the cards ahead of time; he can even place the cards deliberately instead of randomly, if he desires.)

Next, the GM shuffles the Natural Feature cards – he needs at least the same number as he has face-down Ruin and Blank cards. If need be, Blank cards can be modified to represent locations of interest (such as an established outpost.) The GM then deals these cards *face up*, atop the Ruin and Blank cards.

Finally, the GM determines the starting location of the heroes, placing a token representing them atop one of the cards. If the players are aware of any additional or adversarial forces in the area, he can represent them with different tokens atop cards as well.

*Usage:* Once the "map" has been set up, the adventurers can get to work exploring. It's up to the heroes to determine where they want to go, and if they want to explore.

The scale of the region is purposely nebulous, for flexibility. However, the GM and *players* should each have an idea of how big an area each card represents. For example, the GM may tell the players that moving from card to card takes a half day, and exploring a card takes a full day. (Different geographical features may alter either time.)

Once the PCs decide to explore an area, the GM can have the players make an appropriate roll; if they succeed, they get to look at the card underneath the Natural Feature card, where they learn if they discovered a Ruin or a Blank (which probably represents nothing).

*Complications and Goals:* This system is as interesting as the stakes the GM assigns to it; if the scenario is just "move from card to card and make random rolls," that's not very interesting! Complications are left up to the GM to determine them *and* figure out how much the heroes know.

*Example:* The GM may decide that the PCs and two competing factions are searching for an ancient device of considerable power (represented by the High-Tech Civilization Artifact card). The heroes know their location; each day, the scout in their group can roll to determine the location that day of the other two groups. The adventurers then decide if they want to search their areas, attempt to secure a barrier of territory (and search their region at their leisure), track down the two opposing groups and terminate them, etc.

Some sample goals include:

- Discover a certain number of artifacts before other forces.
- Discover a number of remnants from High-Tech Civilizations within a certain amount of time. (Perhaps a cosmic catastrophe is coming!)
- Prevent another faction from unearthing too many Ruins.

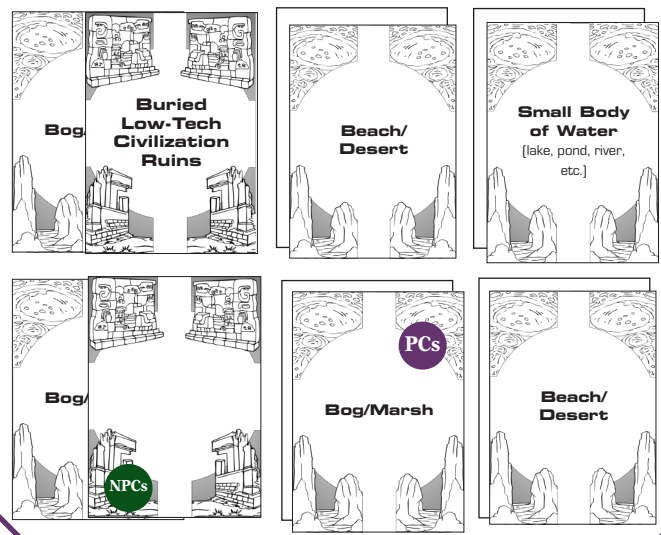
Sample complications include:

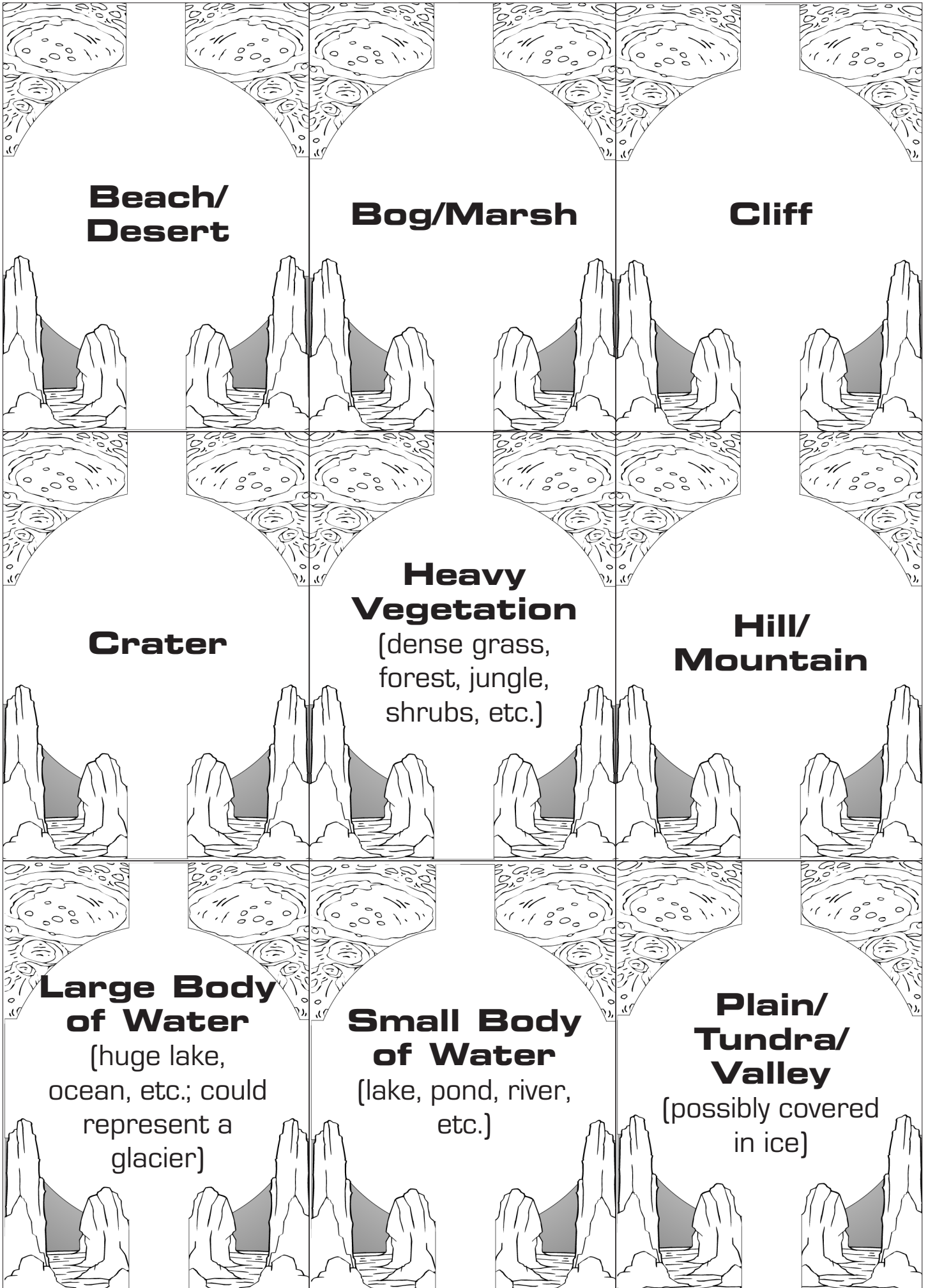
- Any time spent in Low-Tech Civilization ruins is disorienting; they seem to have some sort of residual energy that entralls explorers. Lose a half day.
- The card beneath the Body of Water card is inaccessible, unless the PCs think of a clever way to be able to explore it.
- Anyone who uncovers a Ruin card can use an appropriate science-related skill to speed excavation at future Ruins (on a successful roll, the group spends only half the time it would have in a square when they find subsequent Ruins); this may stack!

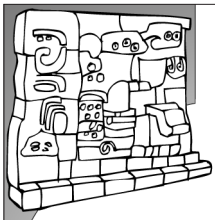
*Winning:* The PCs can keep using the card-map until they accomplish their goal, realize their goal is impossible, or quit.

See p. 39 for a full example of this use for the cards.

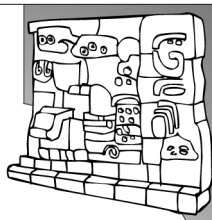
*Detail of sample map. Two Bogs have been searched, unearthing ruins at one spot and nothing ("Blank") at the other.*



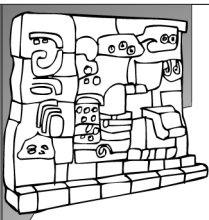
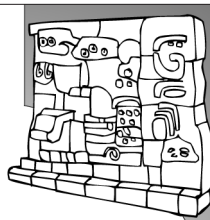




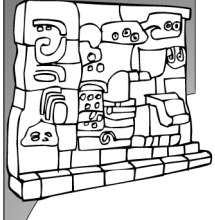
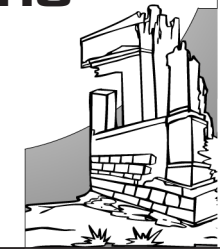
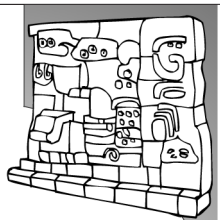
**Exposed  
Low-Tech  
Civilization  
Ruins**



**Half-Buried  
Low-Tech  
Civilization  
Ruins**



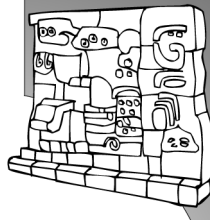
**Buried  
Low-Tech  
Civilization  
Ruins**



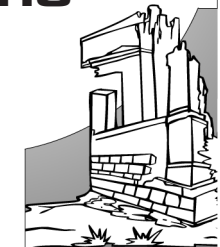
**Exposed  
High-Tech  
Civilization  
Ruins**



**Half-Buried  
High-Tech  
Civilization  
Ruins**



**Buried  
High-Tech  
Civilization  
Ruins**



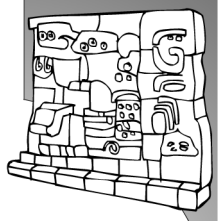
**Low-Tech  
Civilization  
Artifact  
(no ruins)**

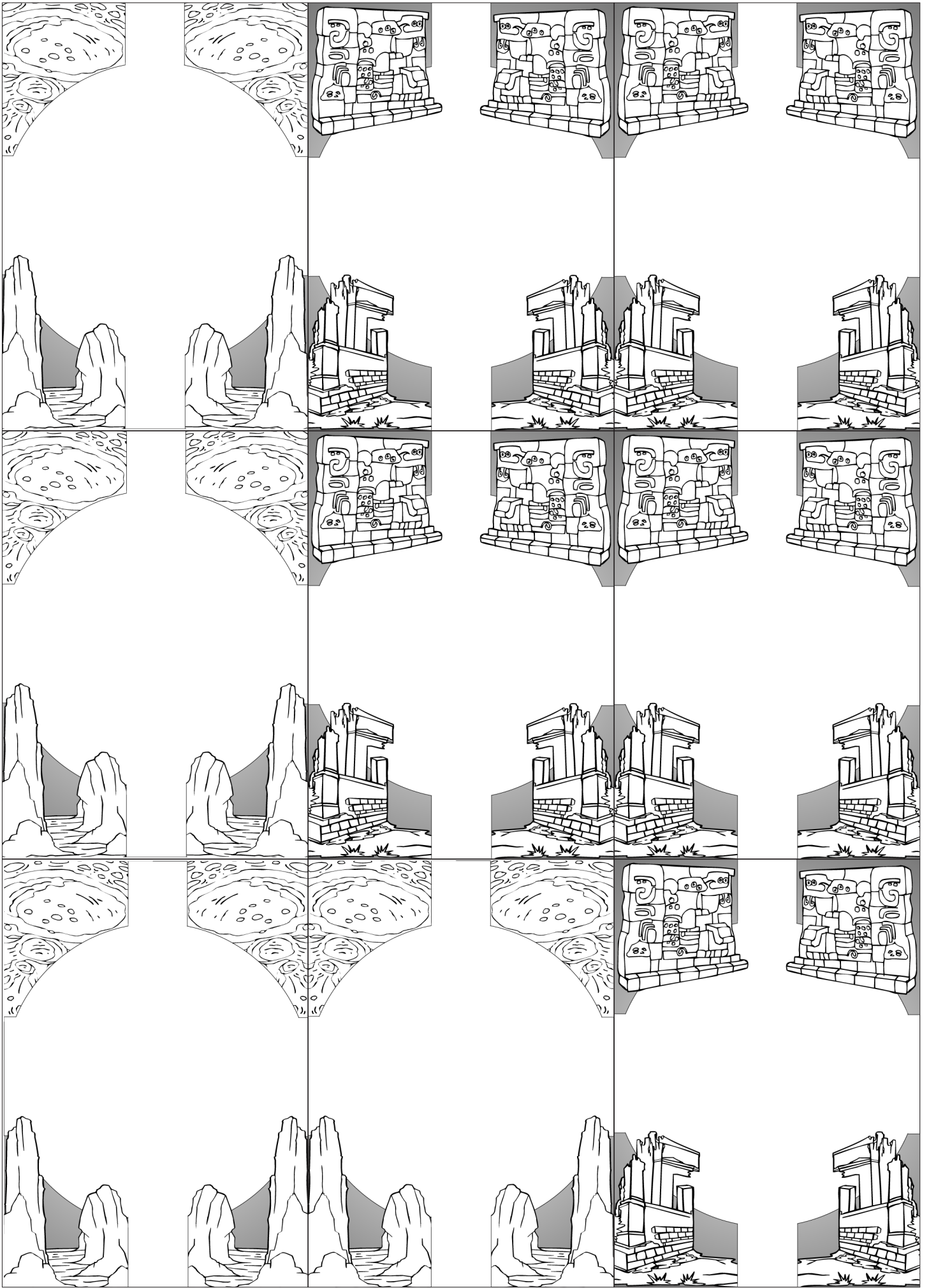


**High-Tech  
Civilization  
Artifact  
(no ruins)**



**Artifact of  
Unknown  
Origin  
(no ruins)**





# COLD HORIZON

BY MARK GELLIS

Who needs the stars when you have the Kuiper Belt?

The Kuiper Belt lies beyond the orbit of Neptune, extending from about 30 AU to about 50 AU. Current estimates suggest the Kuiper Belt is home to tens of thousands of cometary bodies 60 miles or more in diameter; the number of cometary bodies at least one mile in diameter is probably in the tens of millions.

Beyond the Kuiper Belt lie other cometary regions, currently referred to as the Scattered Disc, the Hills Cloud (or inner Oort cloud), and the Oort cloud. The Oort cloud may extend as far as 100,000 AU from the sun. The cometary bodies in these outer regions are widely scattered compared to those in the Kuiper Belt, but the ones that are at least one mile in diameter probably number in the hundreds of billions. It is likely that most solar systems, unless they have been disrupted by some catastrophe, have similar cometary zones.

In addition, many other outer system bodies – such as the moons of Uranus and Neptune; Centaurs; and Trojan asteroids of the outer worlds (several Neptunian Trojans have been discovered) – will be similar in physical composition to cometary bodies.

Why would anyone care? Because a cometary body is an excellent place to build a space colony. Plus, the sheer number of cometary bodies in the outer regions of the solar system means they represent a potential galaxy of settings for all kinds of science-fiction campaigns.

## A TYPICAL COMETARY COLONY

Consider a typical small cometary body, about one mile in diameter. The mass of such objects will vary widely, but many cometary bodies are believed to be highly porous, loosely packed conglomerations of rubble. Based on this, and assuming a roughly spherical shape, a typical one-mile comet might mass about 1,000,000,000 tons.

Cometary bodies are composed mostly of water ice, organic compounds (both as volatile ices and dust granules), and silicates. The ratios vary from comet to comet, but on average, each of the three materials takes up about one-third of the mass. In most, metals like iron, magnesium, and aluminum will be present, but will usually represent less than 5% of the total mass.

Is this sufficient for space colonization? Describing a typical small habitat constructed using the rules from *GURPS Spaceships* can help to explore this concept further. A rotating ring-shaped habitat with a radius of 500 yards and a floor width of 100 yards, massing about 3,000,000 tons, would have an internal surface area of roughly 1/10 of a square mile. About 60% of the habitat mass (or 12 systems) would be armor, providing sufficient shielding to protect the colonists from cosmic radiation. This will make it a suitable long-term environment for up to 5,000 people, with 2,000-3,000 being a more likely figure.

Assuming that steel and carbon compounds are the primary materials necessary for construction, it is clear that even a small cometary body would be sufficient. A one-mile comet will have hundreds of millions of tons of organic chemicals, so there is no shortage of the raw materials necessary to produce a variety of synthetic compounds. As for steel, if even 1% of the mass of the comet is iron, it will be enough to provide colonists with 10,000,000 tons. In terms of raw building materials, even a small comet has more than sufficient material to create a single space habitat of the kind described above.

### Population Explosion

The rules in *GURPS Spaceships* actually allow even larger populations than the assumed 5,000; that figure, or 50,000 per square mile, is a maximum based on statistics for modern cities. These suggest there is a limit beyond which one cannot crowd people without reducing the overall quality of life. For instance, Tokyo has a population density of about 35,000 people per square mile and New York City has a population density of about 25,000 people per square mile.

A more serious concern is energy. For the cometary city to survive, it will have to rely on either solar or fusion power. Even so, the resources in a one-mile cometary body will easily meet the needs of a small space city. At 50 AU, providing Earth-like sunlight for 1/10 of a square mile of the habitat interior would require 250 square miles of mirrors. However, because structures in space can be extremely light, the mirrors may be only a few hundred thousand tons of aluminum; if 0.1% the mass of the comet is aluminum, there will be more than enough construction material.

*Unsurprisingly, GURPS Space provides a wealth of ideas and information that supplement this article. The entire Asteroids and Comets section is useful (pp. 130-131), especially its info on the Oort cloud and Kuiper Belt. Similarly, the Artificial Structures subsection (pp. 132-133) can provide additional inspiration for those forming their own comet craft.*

Fusion power could be used as well. In fact, it would be possible to use fusion power to create artificial lighting for a habitat that could completely replace natural sunlight. (For a colony in the Scattered Disc or further out, this might be the only viable option.) The water ice in a cometary body will usually contain a significant amount of deuterium, perhaps as much as 10 tons per 1,000,000 tons of water. If deuterium-deuterium fusion is available, a single ton of deuterium could meet the power needs of the habitat for several years, so a one-mile comet could provide power for a space city for several millennia. Even if deuterium-deuterium fusion is not available, and tritium or helium-3 needs to be produced or imported, a one-mile comet would still have enough native deuterium to meet part or all of the energy production needs of the habitat for thousands of years.

Conservatively, then, a one-mile comet massing a billion tons would be sufficient to meet the needs of a small space city massing about 3,000,000 tons and housing about 3,000 people. The comet's supply of natural resources would be enough to support them almost indefinitely.

## INSIDE THE COLONY

Interiors can vary enormously, but here is a very simple plan that would be logical for many habitats to employ: A 100-yard-wide main concourse runs down the middle of the ring in areas dedicated to housing or business. The concourse is suitable for walking, biking, or driving small electric carts (generally used as taxis or to deliver objects too heavy to carry by hand). In the middle of the concourse are kiosks, open-air market stalls, and tables or public gardens where people can sit and share a meal or a drink with friends. Shops, offices, and townhouses or apartments line each side of the concourse.

The habitat also allows for larger open areas, including parks the size of football fields; here a concourse is replaced with a path – perhaps a meandering one that provides a more natural feel, but still wide enough to accommodate bicycles and electric delivery carts.

Because space is at a premium in both the ring and the hub of the city, habitats might not rely on traditional farms, but on highly efficient vatfacs and hydroponics facilities. (In *GURPS Spaceships*, this would be a Habitat system employing TL9+ total life support. There are still open systems in the habitat design, but these represent the parks and the main concourses.)

Townhouses, shops, and offices are designed similarly to mobile homes – long and narrow. However, they are organized as blocks rather than separate units to save space; in addition, since the narrow end is what faces the concourse, doors are in the front and back rather than on the sides. (Housing units have back doors opening onto private rear gardens, improving the quality of life and permitting a second exit in the event of a fire.) As a result, buildings can be best described as “deep” rather than “long.” Most buildings can also be two-story affairs – even in a habitat, this would not create serious strains on the main structure – which would double the amount of floor

space available for homes, shops, and offices. Architecture would vary depending on the individual habitat, but a typical housing unit might be five yards wide and 30 yards deep, with the private yards being five yards wide and five yards deep. It could contain either two apartments stacked on top of each other, each one providing more than 1,300 square feet of living space; or a “luxurious” two-level townhouse with more than 2,500 square feet of living space. Habitats could also feature a mixture of aristocratic and proletariat sections.

With a radius of 500 yards, a spin rate of one rotation per minute will yield an internal gravity of about 0.5 G; a spin rate of one rotation every 45 seconds (approximately 1.33 rotations per minute) will yield an internal gravity of about 0.9 G. Unless settlers want to recreate different environments in the interior (such as desert), temperature and humidity can be kept mild and moderate.

### Variations

Space habitats can be designed far more luxuriously. If only a few dozen rich families live there, with robotic farms and factories that produce the wealth of the settlement plus a few hundred servants and technicians to manage things for them, the population might be only a thousand people. The interior could be divided into a series of private estates with sprawling mansions and acres of park-like lawns and wooded groves.

## COMETARY NATIONS

The previous description assumed smaller comets and habitats, partly as “proof of concept” examples to illustrate the potential of the Kuiper Belt and other cometary regions. A more likely target for colonization would be a larger body, such as one of the tens of thousands believed to be in the Kuiper Belt that are 60 miles or more in diameter. A cometary body 60 miles in diameter could support millions of people, living in an archipelago of habitats. A single dwarf planet like Pluto or Eris could easily support billions of people, who might either live on the dwarf planet itself or in a cloud of orbiting cities. Travel between habitats in cometary nations of this kind could employ simple, low-velocity chemical rockets. A one-mile comet contains hundreds of millions of tons of hydrogen and oxygen; there is no shortage of the chemicals necessary for producing rocket fuel. Travel using such shuttle rockets would probably be no more difficult than air travel is on Earth today.

With more raw materials available, it becomes possible to build larger habitats. Unfortunately, *GURPS Spaceships* doesn't scale properly when the rules are applied to very large structures of this type. However, it's still possible to calculate the mass and other stats of other samples.

*For inspiration on how a cometary society might develop if left in isolation, consider adapting **GURPS Renaissance Florence**. File off the serial numbers and you've got a hotbed of intrigue and action. Be careful who you offend – that shopkeep might be a nephew of the most powerful family in the colony!*



A medium-sized ring-shaped habitat – massing about 30 million tons, with a ring 3,000 yards in diameter and 300 yards wide – would have an internal surface area of about one square mile and could house tens of thousands of people. A cylinder-shaped habitat, two miles in diameter and 10 miles long, would mass about 1.5 billion tons. It would provide roughly 25 square miles of internal area in the form of three “valleys,” making it suitable for populations of about 500,000 people. The “sky” (windows for sunlight or lighting panels providing artificial illumination) would be divided into three long strips as well.

Although details are outside the scope of this article, it is possible to construct even larger habitats by using carbon as a primary building material. A large ring-shaped habitat, for example, could have a diameter of 100 miles, a ring floor 10 miles wide, and an internal surface area of 3,000 square miles, similar to many large islands and capable of housing several million people. In fact, since carbon is far more common than iron in cometary bodies, it might be used to build smaller habitats, too, as long as the hull of the habitat was sufficiently dense (about six tons per square yard) to shield inhabitants from cosmic radiation.

These large cometary nations could provide rich settings for campaigns. Societies might be quite diverse, with complex networks of merchant houses and political cliques forming a social geography as varied as any nation or large metropolis. Heroes could spend years moving from one island city to another, following up on new opportunities for adventure, and moving on when it was necessary or desirable to do so.

*Yeah, I just heard it on the grapevine. They're going to draft us as members of the colony, and make you the next pilot.*

– *Doctor Who*  
(1963) #4.30

## **HORIZON-CLASS DEEP SPACE COLONY**

This 3,000,000-ton “ship” is meant to simulate a conservative treatment of a Stanford-type torus-shaped space habitat that can be used almost anywhere in a solar system. It is not an “efficient” design but rather a robust one. With 60% of its mass consisting of steel shielding, it can protect unmodified

human beings from cosmic radiation indefinitely. In addition, it has sufficient structural strength to simulate gravity up to 1.5 G by rotating.

Some aspects of the design have been abstracted to fit the rules from *GURPS Spaceships*; one may assume the actual layout of the habitat could vary somewhat from what is presented here.

The *Horizon*-class has no maneuver drive; it can use attitude jets to maneuver very slowly to avoid incoming debris, etc., but it not “mobile.” The habitat has no armaments; should it be necessary to defend itself, it would depend on fighters or various other craft carried in its large hanger bay. (With 100,000 tons of hanger capacity, the habitat can easily support almost any imaginable combination of support vessels.)

As written, the habitat must depend on support vessels to mine and refine raw materials for its factory (or it must purchase them from other habitats). Alternatively, replace the factory with three SM+14 systems, as per the *Smaller Systems* rules in *GURPS Spaceships 7* (pp. 4-5). With a mining facility, a chemical refinery, and a robofac, a space habitat would be completely self-sufficient as long as it had access to a source of raw materials like an asteroid or a cometary nucleus (using SM+14 systems would reduce HT to 13, though).

Yet another option would be to have three habitats, each using a different production facility: one with a mining facility, one with a chemical refinery, and one with a robofac. The two habitats without a robofac would each cost \$55,020M and have HT of 13. The three space habitats, working together as a small nation, would be completely self-sufficient.

Two solar panel arrays are provided in the default design, although only one is needed, to represent the use of both a solar-power generation system *and* a large array of huge mirrors for gathering sunlight. In the outer regions of the solar system, these extra mirrors would be necessary, but can be remarkably light; it is assumed that by dedicating 10% of the habitat’s mass to these two power systems, enough sunlight can be gathered for light and power out to 50 A.U. in the Sol system. Further out, the solar panels must be replaced with fusion-power systems.

The 5,000 luxury cabins represent long-term housing for up to 5,000 people. The life support systems could actually provide air, water, and vat-grown food for up to 10,000 people, and this would be not only suitable but luxurious for a journey of a few weeks or a few months; however, it would make for rather crowded and uncomfortable long-term housing. The 750 cabins represent hotel rooms for tourists, temporary workers, and so on. The hospitals, labs, minifacs, and establishments all provide a flexible general infrastructure suitable for any economy.

The central hull’s core uses the rules for half-size systems from *GURPS Spaceships 7* (p. 5). This allows an extra five acres of open space for farms, parks, plazas, etc. within the habitat.

The habitat features 11 airlocks, each with a capacity of up to 11 people. Load includes 100,000 tons in the hanger, 25,000 tons in steerage, and 1,160 tons of crew, other residents, and visitors.

*Cometary colonies can provide fodder for explorers coming or going. Depending on technology, a cometary vessel might make a great way to explore in style – and, of course, stumbling across an interesting occupied comet is a great discovery.*

## Horizon-Class Deep Space Colony

TL	Spacecraft	dST/HP	Hnd/SR	HT	Move	LWt.	Load	SM	Occ	dDR	Range	Cost
10	Horizon-class	1,000	–	14	–	3,000,000	126,160	+15	11,600 ASV	280	0	\$352,020M

### Front Hull System

[1-4]	Steel Armor (dDR 280)
[5]	Habitat (5,000 luxury cabins)*†
[6]	Solar Panel Array
[core]	Control Room (C11 computer; comm/sensor 14; 60 control stations)

### Central Hull System

[1-4]	Steel Armor (dDR 280)
[5]	Robofac (\$150,000,000/hour)
[6]	Hanger (100,000 tons capacity)
[core]	Half-size Habitat (150 establishments, five 100-bed hospitals, 20 large labs, large ops center, 100 offices, 50 briefing rooms, 2,000 minifacs, 750 cabins†, 25 cells†, and 25,000 tons cargo)‡ and half-size Open Space (five acres)‡

### Rear Hull System

[1-4]	Steel Armor (dDR 280)
[5]	Open Space (10 acres of parks, farms, etc.)
[6]	Solar Panel Array

\* 300 workspaces per system.

† With total life support.

‡ 150 workspaces per half-size system.

The crew requirements are 1,860 for control and basic maintenance and an additional 1,155 people if all hospitals, labs, establishments, government offices, and so on were fully staffed. Assuming 5,000 residents, this allows children, retirees, and other nonworkers to make up about 2/5 of the total population.

## EXPLORING THE COLD HORIZON

One option for campaign design is for the PCs to be among the first individuals to visit a cometary body, either as part of the initial survey or as members of a band of colonists.

A classic adventure story idea in this vein that can easily be adapted to exploring a cometary body is to have the PCs be the second or third expedition to a particular object, one from which no one else has ever returned. How and why those earlier expeditions met with disaster would be the mystery the heroes need to solve. (Of course, the PCs might not even be told about the fate of previous expeditions until it's too late!) From a storytelling standpoint, the fate of the first expedition should probably not be utterly mundane, since solving this mystery is the driving energy of the plot. Whether the answer is tragic or bizarre, it should be meaningful. Perhaps a member of the first crew went insane and killed

the others before dying alone out on the ice. Or maybe the first expedition discovered an alien artifact but did not realize that it was dangerous and were destroyed by it – and, of course, it is still out there.

Exploring a cometary body could be quite risky. Temperatures will be close to absolute zero. Except for the larger cometary bodies, gravity will be almost nothing; a sufficiently strong enemy could literally hurl a person out into space. In addition, the surface of a cometary object may be quite treacherous. Cometary bodies vary in composition from solid mixtures of ice and rock (as is the case with larger bodies such as dwarf planets) to loose piles of rubble similar to lightly packed snow. On any of them, jagged outcroppings of ice could impale the unwary, tear open a spacesuit, or create fragile formations that might collapse suddenly under pressure or stress. Those engaged in the exploration of cometary bodies should have skills such as Vacc Suit, Climbing, and Free Fall, and possibly even Physics (to understand the properties of matter at temperatures close to absolute zero). Prospecting skill will provide enough scientific knowledge to handle on-site surveys for valuable raw materials.

*I can well imagine  
that's what they said  
about your great-  
grandfather, John, when  
he volunteered to pilot the  
first colony ship to Mars.*

– *Babylon 5* #2.6

Once the comet is explored, it is time to build the habitat (possibly the first of many). This is, of course, a major undertaking, but not too difficult for a group of wealthy colonists or other investors. Using the rules from *GURPS Spaceships*, a group could build a cruiser-sized “bootstrapper” ship with mining and chemical refining equipment and a factory, which could be used to process raw cometary materials and assemble a habitat.

*Originating on a cometary colony can make an exotic origin for any hero. It also permits interesting beliefs, Odious Personal Habits (especially those relating to personal space or interactions), and other traits (such as a different home gravity).*

The process would probably take years, and the bootstrapper itself would probably cost a billion dollars or so, but this would be only a small fraction of the “list price” for the actual habitat. In other words, by doing it themselves (instead of hiring a shipyard to build the space habitat for them), the colonists can have it for a much lower price, making it far easier to pay off the initial investment. In addition, once the habitat is completed, the bootstrapper can be used as a factory for producing trade goods and spare parts – or even to help build more habitats.

Given enough time, investing in a single bootstrapper might provide the colonists with several habitats. Eventually, they will control a large body of raw materials – territory where people can not only survive but live, and the industrial means to create either trade goods or more livable territory. It is not simply that these things might be worth countless trillions of dollars. To the colonists, it will mean they have achieved the dream of starting out with nothing more than a couple of ships and charting their own destiny by building a new nation.

Not everyone would stay in the Kuiper Belt, of course. Some colonists might move their cometary body into an orbit closer to the sun, perhaps near Saturn or Uranus, where sunlight would be more plentiful. Others would consider this unnecessary, and many would prefer the isolation provided by the Kuiper Belt. (When the nearest neighbors are millions of kilometers away, a person can usually count on being allowed to live as he wishes.) For the same reason, some colonists would venture even further into interstellar space. Using solar power would not be feasible in the Oort cloud (although some authors have suggested that small populations might be supported by using truly gigantic mirrors to harvest starlight), but fusion power could allow settlers to live virtually anywhere.

## INDUSTRY AND TRADE

The enormous quantities of raw materials in a cometary body make it possible for a space habitat to be largely self-sufficient, but most will need or wish to engage in trade with other habitats or worlds for less common materials, such as helium-3 for fusion power, or heavy metals and other substances necessary for industry.

It is certainly possible to ship bulk quantities of raw materials, including water ice and organic chemicals, to customers in other parts of a solar system. Colonists can simply launch material as large blocks of ice using mass drivers. Return shipments from the inner regions of the solar system to the Kuiper Belt can use the same method.

Another source of income would be specialty products. Comets are rich in water and organic chemicals. With this kind of resource base, it might make sense for a cometary nation to specialize in areas such as genetic engineering, agriculture, plastics, and pharmaceuticals. In some cases, these products would be too fragile to endure high-G acceler-

ation via mass drivers and would have to be shipped via traditional spacecraft.

Other possibilities would be “industries” that did not rely on physical products, such as banking, entertainment, or industrial or political consulting services of one kind or another.

Where there is trade, there can be crime and intrigue. Pirates might attempt to intercept cargoes sent via mass driver or spacecraft. Truly ambitious pirates might openly attack or attempt to conquer a small space city. In addition, competing nations might send spies to steal industrial secrets or other kinds of intellectual property. If the rivalry between cometary nations has become particularly bitter, spies might attempt to sabotage industrial facilities, assassinate local leaders or scientists, or attack enemy habitats or the people living there in other ways.

### *Geology Matters*

While Astronomy is sufficient for general questions about cometary bodies, any thorough scientific survey will require Geology (Ice Dwarfs). However, the differences between a Kuiper Belt object and a small Neptunian moon are rather significant. For additional realism, the GM may thus choose to use the familiarity (p. B169) rules -- e.g., a geologist only familiar with lesser ice moons would be at -2 to skill when obtaining details on a comet from the Kuiper Belt.

### *Other Campaign Considerations*

One obvious aspect of campaign design is to consider how a cometary nation relates to the rest of the solar system. By the time such regions are undergoing colonization, it is likely civilization is space-industrialized and capable of fast interplanetary flight (most likely using some kind of fusion propulsion), with dozens or hundreds of moons and asteroids used as the locations for space settlements.

The numbers give the GM enormous freedom. Consider, conservatively, a campaign setting where 100 large cometary bodies (including three or four dwarf planets) have been explored and settled, their resources used to build thousands of space habitats, and the outer solar system hums with the industry, politics, and culture of billions of people. Extrapolating from current history and politics – especially in regions where dozens of small- or medium-sized countries compete for economic and political advantage – can create an epic setting, with heroes who are soldiers, investigators, or spies, either loyal to a particular nation or simply talent for hire.

One principal difference between modern-day civilization and a cometary one would be the travel times involved. Since most are separated by dozens or hundreds of AUs, travel between cometary nations would take months or even years.

*Adventure idea: Enemies of the adventurers accuse them of genocide. Apparently a comet the PCs used or destroyed in a previous adventure was actually occupied! Are the charges true, or is this an elaborate ruse to discredit or imprison the heroes?*

However, communication would still take place at the speed of light and messages could flash between cometary nations in a matter of hours or days. In a sense, the civilization would be like the world in the age of steam – physical travel between Europe and Asia aboard ships could take weeks, but telegraphs allowed people to send messages around the world in a matter of hours.

Of course, some cometary nations might exist in almost total isolation. A single habitat built near a small cometary body in the Scattered Disc or the Oort cloud would be very much a world unto itself. Isolated this way, the colony's inhabitants would be free to develop their own unique culture, perhaps resulting in some very peculiar societies. Outsiders such as independent merchants wandering the cometary realms might find the citizens of these isolated cities to be clannish and insular. It would be a simple matter to draw on one of the oldest tropes in horror stories – the little town with a big secret – to create stories set in such isolated cometary nations. The cometary nation might be superficially idyllic but hiding some horrifying truth, or the decadence and corruption might be obvious and only the first hints of an even darker secret.

### *The Comet's Tail*

One final option is start with the end. If a habitat was destroyed by natural disaster, industrial accident, war, or terrorism, the first part of the campaign can involve getting the heroes – and anyone they care about – to safety. The rest of campaign would focus on the refugees and their struggle to find or make a new home. (A variation on this would be the coup or the failed rebellion – the habitat survives, but the heroes are, for one reason or another, exiled.)

Of course, the end might come with a whimper rather than a bang. One could easily build a campaign around the desperate struggles of a group of heroes to save their nation from some slow decline. (With this option, the GM should have some way to accomplish this, although success should not be guaranteed and need not even be likely.) If they succeed, they will be heroes. If they fail, it can be an epic struggle; the heroes may go down fighting, hoping against hope, but not in vain, as a fight fought for something worthwhile is never in vain, even if it fails. Or perhaps the heroes might realize there is nothing they can do, and will set off to find a new home, hopeful that the future may bring them better days – but with hearts heavy for the broken little city they must leave behind to the darkness.

*And the word went forth to every outpost of human existence, and they came: the Aries, the Gemons, the Virgos, the Scorpios, the Pisceans and the Sagittarians. In all, 220 ships, representing every colony, color and creed in the star system. The human race might have one more chance. But first it would have to survive the alliance, the elements, and the unknown dark and sinister threats that would lie ahead.*

– *Battlestar Galactica* (1978) #1.1

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# SECONDHAND SPACE EXPLORATION: THE POWER OF PROBES

BY ANDY VETROMILE

Sometimes boldly cruising about the galaxy looking for new worlds and new civilizations isn't feasible. Some races (such as humanity) use probes to do the work instead. Here, then, is a discussion about why a species might choose to use these devices, and how they may go about it.

## THE WHYS AND WHEREFORES

If someone decides to use probes instead of going into the inky-black beyond personally, there should be a reason for it. Why employ this technology rather than something more ambitious?

In the case of Earth (and probably many alien species), it's the only way we know to get out there. We simply don't have the technology to send people of the solar system, so we send probes to take pictures and send back information and readings about the inaccessible bodies "nearby." We also send greetings engraved on satellites to whomever's out there.

Sending probes is cost-conscious. The technology to explore places personally is fabulously expensive, in which case probes are a low-cost expedient that gets more done for less. Heaving a whole spaceship into the skies – never mind getting it to leave our system, carry colonists, and the like – is a major undertaking. Conversely, hurling a probe into space

means creating a relatively small vehicle, pointing it in more or less the right direction, and pressing the "fire" button.

For a bit of color, the GM can create a race whose motivations for, or limits on, creating a space program are more mysterious to the human mindset. The responsible race might possess a haughty spirit; the business of actually going out into the galaxy to explore is simply *beneath* them. They're pleased to find new contacts among the stars, but their smarmy attitude continues to color relations going forward unless the newcomers can prove themselves.

Fear is also a good motivator. The alien world may simply have no heroes, no one willing to take on the dangerous business of the frontier – until they find themselves inspired by the humans who respond to their timid outreach.

Then again, they may simply be apathetic or lazy. Visitors are always welcome, but they shouldn't expect their hosts to show any more initiative in guest relations than they do in their space program.

Besides alternate alien motivations, probes are a bit sneakier, too. While an entire starship is an easy thing to spot, a series of probes could be launched with only a limited chance for detection. Depending on the tech level, tracking down the tiny capsules might be too fine a detail to look for even if the launch itself was uncovered. This could be a tricky way for an enslaved species to send a distress call out to their neighbors, in hopes of finding someone with superior firepower (and sterner moral judgment) to free them.

*When placing a message plaque on the outside of a probe, be sure to position it so that it's protected from stellar dust.*

Even if the “rescuers” turn out to be just as evil as their current warders, the rebels have a chance to set the two sides against each other; weakening them and setting them up for a death-blow from the insurgency.

Probes could also be backups for other plans. Given the chance of failure possible with forays into interstellar space, probes might succeed (in limited fashion) where the main mission does not. Even if the spacecraft slams into a comet, its wee little brethren might sail on by and finish the job. Considering the expense of a ship, a planet with only one craft is going to take what it thinks is the “best” course for accomplishing the ships mission; probes can be sent in other directions as Plans B through Z.

## Example: Clerical Errors

An alien species has social or religious prohibitions about leaving its homeworld. (Perhaps the ruling body goes by an ancient text that says there is no life outside what is already known, and it is heresy to go elsewhere.) A small cadre of open-minded scientists put a probe into use, at great risk to themselves when the government finds out about their actions. The heroes are representatives sent to that planet once their species encountered the probe. When they arrive, they are lumped in with the rest of these “sinners” and forced to suffer the same punishment as the scientists.

Alternatively, the religious body takes a wait-and-see approach. They want to witness the results when a probe is sent out, and if a peaceful people return greetings because of it, they may be willing to amend future plans.

As a final possibility, a high priest for the state supported a probing mission. Letting it progress as part of his personal grab for power, he claimed the probe had returned with a message that declared him the rightful ruler of his people. When the heroes turn up to say hello, it’s a surprise to everyone, and the scheming cleric realizes his plan is in jeopardy. He can recruit the team or try to eliminate them as rivals for his newfound glory.

## MESSAGE TO THE COSMOS: RSVP

Civilizations – especially young ones – often use probes to gather data and return it to the people back home. A few well-aimed rovers can send back photographs, information about samples of dirt and atmosphere, readings of radiation levels, and more. Advanced probes can take samples and return the physical specimens to their owners. As the machines get better at what they do, they might also collect *alien beings* and bring them back. That could result in embarrassment all around when the lab rats are found to be intelligent, or to arguments and wars if either side in the “exchange” doesn’t respect the other or thinks such shabby treatment demands a vicious response. This assumes the device doesn’t have some sort of

decision-making software or a way to make an invitation to find out if the potential ambassador is willing to hop aboard and play tourist.

In campaigns with exceptional ultra-tech – especially space-opera settings – a probe might drag an entire *planet* back for study . . . and if the scientists are any kind of gentlemen, they’ll put it right back where they found it when they’re done with it. A race capable of doing that would probably be powerful enough to quell any resistance to the idea, but plucky little humans (or the campaign equivalent) might have alternate plans. They should be able to mount a pretty good response, given that they have all their stuff with them . . .

A probe might also be a robot of some sort. It can be an android, made to resemble the species that sent it (or the people to whom it was sent) – it may look real or clearly be artificial depending on what tack the creators want to take. Such a robot could be a sort of oversized waldo, like a radio with arms. Someone back at mission control talks to the people of this new world using its voice and shakes hands with them through its limbs. Of course, the automaton needs FTL communication capabilities if it’s operating in real-time; it needs an instantaneous method of transmission to carry on responses in a conversation. If so, there is either a gap in the relative advancement of the technologies involved (or else why didn’t the user just shown up personally?), or there’s a reason for using a robot representative (see *The Whys and Wherefores*, pp. 29-30).

The ability to turn objects into information like a teleporter (or at least make a complete molecular map of the person or thing targeted) would make sampling easier. Its effectiveness depends in part on the device’s storage capacity and in part on the level of that ultra-tech. Even if “cargo space” is theoretically unlimited, living creatures may be outside the creators’ capabilities, or perhaps it’s only the mind of an intelligent being that’s beyond the scope of such equipment.

## MESSAGE IN A BOTTLE

Probes are a simple (if haphazard) way of *sending* information out to the stars without manning a mission. Unless using more precise targeting capabilities, the sender is really just hoping the law of averages will catch up to his device – he wants someone or something to accidentally bump into it. He may have a specific target in mind – a star, planet, or installation, depending on the quality of his long-range detection equipment – or he may just point it at the most densely packed cluster of heavenly bodies he sees and cross his fingers. Some probes are fitted with thrusters of some sort; they may not have the ability to make major course corrections once they’re underway, but mission control can nudge them slightly. Most have some sort of broadcasting array that periodically “pings” its surroundings, improving the chances of someone tracking it down.

*There are a few methods of getting a probe to a specific destination, including the Hohmann transfer orbit and gravitational slingshot maneuvers.*

Information sent back during the first leg of the journey (usually while the probe is still within the home system) can offer a better view of the intended destination and improve its chances of hitting the bull's-eye; control can then send signals to adjust the trajectory based on the new data. Primitive probes often stop sending (or accepting) information, either because they're out of juice or because that system has ceased functioning. Regardless, without exceptional tech, probes that rely on course correction from the homeworld can't dodge cosmic debris; it simply takes too long to receive the updates and send the corrections, so such programming best avoids major, obvious, and long-term problems (like "Don't hit Neptune").

### *[This Space Intentionally Left Blank]*

Some probes might seem *blank!* The senders might see such devices as gifts that speak for themselves, achievements that need no explanation outside their own culture, or just the thing to do. (Maybe they saw their own neighbors sending out probes and just don't get the practical idea behind their use!) The probe might not actually be blank; it could just carry a message the receivers aren't in a position to understand. The communication might be psionic, magical, or require that the device be exposed to a specific wavelength of radiation (intergalactic "lemon juice").

### *Minding Your Message*

The exact nature of data sent to the void depends on the responsible race and what it hopes will be done with the information. Although it's impossible to say for sure what an alien thinks of as practical, there are some obvious choices, and the GM can use the *unobvious* to spice up relations.

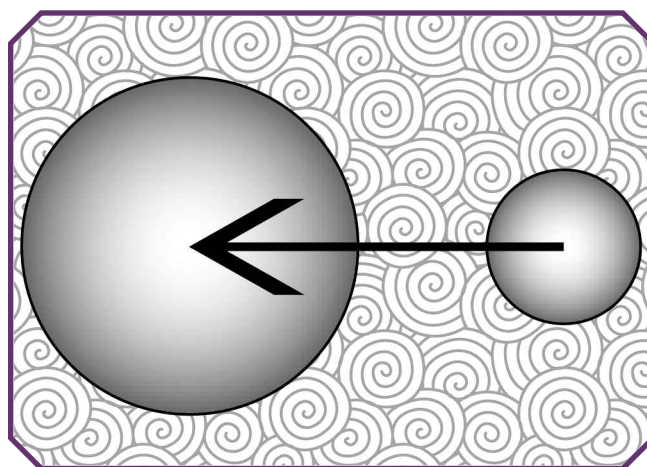
Although it's a given that most probes are a way to say "Hello!" to one's celestial neighbors, a race might possess a peculiar or inscrutable outlook. A probe could send messages that say "Stay off our doorstep"; "Beware of the leopard"; "Sector 7G is about to explode"; or, weirdly, "Good-bye!" (which could be threatening, but could also be an eccentric farewell from a race we've never met . . . or have we?). Many religions would be thrilled to extend evangelical messages beyond their own spheres, which can complicate relations – the receiver not only has to interpret the language, he has to make the distinction between an alien's philosophy and his science.

The next most obvious purpose behind a message probe is to tell others of the creators' existence, with the expectation that two species could meet at some point – meeting other races is usually part of greeting them, but it's conceivable a civilization wants to be polite and still deter potential visitors. Meeting may take a while, depending on the relative tech levels of the two parties, but at least the receiver knows someone is out there and thus have a goal to work toward. (This assumes the probe serves as proof of intelligence, but it's feasible a race's perceptions are so alien it is unable to distinguish between crafted and natural objects.)

Races announcing themselves usually provide instructions on how to find them. It's generally believed that math is a universal language on many levels, so humans utilize it to convey information and demonstrate human know-how. It's possible to pictorially demonstrate the spacing between a focal planet, the galactic center, and various pulsars to establish a spot on the galactic plane. Even if universally accepted mapping methods aren't available, graphics could indicate the look of a solar system: the number of planets, perhaps their relative size and distance from the sun, and of course on which planet(s) the species can be found. There might also be warnings about which planets or orbits to avoid, either to keep visitors safe from hazards or to lead them away from rival civilizations within the same system.

An alien probe containing graphics that depict its species can create additional plot possibilities – especially if the finding race sees itself mirrored in the picture. Is this a lost tribe, colony, or offshoot of the original world? If so, and the sender or receiver aren't aware of that fact, it can introduce additional mysteries. Alternatively, there might be some evidence that the senders are a sort of cosmic missing link, an ancestor, or figures from the receivers' mythology.

If a planet is in trouble, probes can serve as desperation measures. Depending on tech, the world's inhabitants are probably long-lived or forward thinkers, especially if a call for help might take decades or even centuries to get any response. If the PCs (or their world) are the ones with the problem, how they convey their dilemma or what aid they want is often the sort of issue the players love to debate. If the heroes are on the receiving end, they might have to deduce what their task is. For example, see the image below: two circles – one big, one little, with an arrow connecting them. Is there a comet or rogue planet on a collision course with the homeworld? Are solar flares threatening the atmosphere? Or do they need help harvesting a critical mineral from their asteroid belt? The probe could be asking for vital supplies or substances – do models of atoms "translate" from one culture to another?



*The Hohmann transfer orbit maneuver is more direct than the gravitational slingshot, but the former technique requires more energy than the latter.*

When time is of the essence, a probe can be a long-range and ultimately philosophical gambit. A probe could contain DNA samples or even fully preserved cryogenic specimens (along with scientific lore to revive the species and historical information to educate them); such a craft would hopefully be found by someone willing to ensure their lives and culture are not wholly lost from the celestial record. By the time such samples are recovered, the race may already be dead, but rescuers with the technology needed to rush to the planet may also have what it takes to perform a last-minute save. (Also, if the probe itself doesn't illuminate the catastrophe, there's a whole other adventure to be had tracking down the planet and investigating what happened.) As a final possibility, what if the instructions for resuscitating the race explain how to meld the DNA with the host people? They can improve their hosts' physical traits, allowing them to visit far more diverse worlds, and meanwhile they're satisfied to live on as part of a selfless species' bloodline. (Alternatively, this could be their way of colonizing or proliferating throughout the galaxy, or even how they conquer a gullible people!)

*This is a present from a small,  
distant world, a token of our sounds,  
our science, our images, our music,  
our thoughts and our feelings. We are  
attempting to survive our time so we  
may live into yours.*

– President Jimmy Carter,  
printed on  
Voyager Golden Record

## OUR SPECIES USES THE WORD “PROBE” DIFFERENTLY . . .

For a militant species, a probe is just another type of weapon! Activated once it's placed in proper conditions (a ship's cargo hold, a planet with suitable atmospheric conditions), it could release a subtle infectious biological agent, irradiate its surroundings, or explode! Afterward it might alert its owners to the completion of its mission and send data about its efforts: pictures, video, audio, and scans. With an advanced artificial intelligence it might be an active participant in the assault, altering its tactics in response to its surroundings and the reactions of its victims. (Or perhaps just sends pictures of tasty-looking mineral deposits . . .)

A probe might be a “Trojan horse,” designed to unassumingly gain access to a civilization so it may better cripple or destroy it. It might arrive as a peace offering from enemies – or land within reach of an unsuspecting, unaware victim

society! A particularly sinister long-range plan might involve sending a probe and meeting the new species; if the recipients ever prove to be a danger, the device – probably still sitting proudly in a museum or government facility – activates and destroys some critical civil center.

Another popular trope in science fiction is the military probe that arrives decades after its creators have died out, or one that makes an attack against a former enemy with whom differences were settled. It may be an implacable AI that has to be talked out of doing something rash, or there may be nothing under the hood save some heavy automation and a lot of defenses to keep it from succumbing to enemy attacks until it reaches its target. If the senders can still be contacted, heroes could find themselves aboard the craft trying to disable or destroy it with the radio assistance of a senile scientist hundreds of light years away who cannot recall how he built it.

## INFINITE DIVERSITY

Most probes appear unremarkable – a metallic cylinder stuffed to the gills with whatever messages, data, gear, and cultural artifacts the senders can jam in there. But individual species may have other ideas about what makes a good probe, and some groups may resort to unusual variations on a theme.

An early form of probe is the satellite. Although it may not seem like much, something in orbit can still assist in exploring the galaxy – those bits within spitting distance, anyway. It can emit a signal to the stars, send information back home, take better pictures without the atmosphere getting in the way, and stand as mute testimony to the people below whether they still exist or not.

Some probes are passive in nature, waiting for information to come to them. Much like Arthur C. Clarke's “The Sentinel,” a series of gates floating in space could be a cultural early warning system. Anything that enters a gate is transported to a central location and (one hopes) greeted warmly, but only a race that achieves spaceflight can actually get into one of the portals. This ensures a basic level of competence or understanding from one's houseguests. A similar method would be stelae left for travelers and explorers to find; those who come upon one and activate it may be given knowledge of the creators and offered the chance to speak with the home planet. The stelae collect packets of information and deliver them to the masters.

An encountered “probe” might not even be physical! On Earth, SETI is primarily a series of dishes and equipment pointed at the skies, ever searching for some regular signal that indicates a broadcast from intelligent life. This methodology should work in reverse as well, as the CETI subsection of SETI endeavors to do: An array could constantly beam one message (of any length, repeating at standard intervals) to the heavens. Unless it spreads over a wide arc, such a system may have several beams probing at different regions of space at the same time. It's a tough way to get someone's attention since they would have to literally run into the signal by accident, but it's faster and certainly about as likely as hoping a rocket-propelled metallic shell runs across something without being blown up!

*In addition to scientific equipment, probes from Earth contain assorted mementos and messages (sometimes hidden!).*



*You're an interesting species. An interesting mix. You're capable of such beautiful dreams, and such horrible nightmares. You feel so lost, so cut off, so alone, only you're not. See, in all our searching, the only thing we've found that makes the emptiness bearable, is each other.*

– *Contact* (1997)

If properly advanced AI can fit into a canister, probes may be more robot than projectile. They could navigate some of the bigger hazards in the galaxy without input from home, run a standard series of subroutines to greet hosts and newfound civilizations, and even make multiple stops on an itinerary to multiple races with whom to open communications. Depending on possible tech, neither size nor shape might matter; a probe could be the size of a telecommunications satellite or resemble a giant mecha! (Of course, if the intention is not to cow the newfound race, the latter design could cause a panic.) See *Message to the Cosmos: RSVP* (p. 30) for more on using artificial servants as probes.

Of course, there's no rule that says probes have to be mechanical in nature. A race with advanced skills in genetics and biology – such as the Providers (p. 15) – could *grow* their ambassadors. A seed or chrysalis could be engineered and hardened for the rigors of space travel and atmospheric reentry, set to open only upon arrival in an appropriate atmosphere. Junk DNA could contain messages to the host race, and finding such subtle notes would require a level of know-how the senders consider to be a sapient threshold; like gates and stela, this means only a species of a sufficiently evolved tech level can respond.

Potentially more useful than a intergalactic plant pod is a vacuum-traveling *creature*! If grown to look like the target race, it can walk among them until it sees them reach technological benchmarks, at which point it delivers its message. If intelligent, living probes aren't possible (or desirable), perhaps a slave race could be forced to do the explorers' tedious bidding. Alternatively, one or more spacefaring races may hire themselves out as heralds and message bearers for the rest of the galactic quadrant. (Funding other people to explore on your behalf is hardly unheard of . . .)

## PROBES AT THE GAMING TABLE

Ultimately, using a probe means pressing a button and crossing one's fingers, so incorporating them into an ongoing campaign takes consideration to make it exciting. The heroes could be the first ones to find a probe or be the nearest group

when one makes planetfall; it's up to them to crawl into the crater and cracking it open. However the investigators become involved, the action centers on them.

Perhaps the government saw the "meteorite" on their instruments and – wanting to cover up the existence of aliens – target the heroes as People Who Know Too Much. If there was something of value to be gained from the probe (a special message, the cure for cancer, superpowers) not only will their own country want them, foreign interests are going to track and "question" them. Religious zealots may kill to hide this disruption to their understanding of the cosmos, or they might see the PCs as the Chosen Ones and seek to anoint them as saviors.

Maybe the investigators are the *pursuers* instead of the pursued. Whether the finder is an innocent camper or a forewarned spy, the subsequent chase is to retrieve the device before its contents are damaged (if beneficial) or unleashed (if not).

The heroes might need to perform special steps to unlock the probe's secrets. It may have instructions someone must follow ("This probe is the key to an installation we have left on your moon"), or it may demand a certain action to activate ("Commander, your team must take the artifact into orbit around the sun to a distance of 66 million miles").

Activating the probe might be just the first part of an adventure. Perhaps a probe placed in the right orbit generates a signal to its senders, but some Earth organizations are convinced the machine will call down an invasion – and who's to say they're wrong? The party must choose: continue to protect the probe as it runs its routines, or join the doom-sayers in sabotaging it.

The heroes could also be *part* of the probes! Perhaps the PCs came to a new world as passengers (or stowaways); they might be robots, nanites, or androids. Their mission may involve locating advanced races, or even helping host species by "nudging" their technology. The travelers must blend into society and secret themselves in positions where they can achieve or monitor progress. Witnesses to their arrival could spark a massive manhunt, or – if only spotted by a few dogged crackpots – begin a subplot of a ragtag group desperate to uncover their "evil plots." (Such witnesses could also be played for laughs, where the heroes' only allies are nutty science geeks unable to contain themselves at all the wrong moments!)

*Pioneer 10 (launched in 1972), Pioneer 11 (launched a year later), and Voyager 1 and 2 (both launched in 1977) are now all interstellar probes. New Horizons (launched in 2006) is expected to pass Pluto in 2015. Many other probes to the outer planets and other stars are being considered.*

## Probing Possibilities

There are almost as many ideas for incorporating probes into the campaign as there are stars in the sky. Here are some additional ideas to launch your own adventures.

*My Bad:* The team finds and breaks a probe, either from outer space or belonging to a terrestrial agency. They have to decide what to do, how to cover up their mistake, or how to replace or repair the equipment. It's possible the owners stand to be exposed as criminals who have been milking the government for lucrative aeronautics contracts, and they want to keep the PCs quiet (even if the heroes are too ignorant to know what they've "found").

*Greetings, and Apologies:* The scientists are called upon to fix a problem with their probe. Its radio signals finally made contact with a friendly species in the target solar system, but the device is now radioactive and on a collision course with their world. The affected race requests that diplomatic relations not open with the possibility of being blown up.

*Well, This Is Embarrassing:* Utilizing the old-fashioned way, two races make contact by actually *meeting* each other. Each sent out mechanical feelers earlier in their history, but both developed FTL drives in the meantime and then managed to outdistance their own probes. Now it looks like these devices, all but forgotten, may show up late in the game. Maybe they contain sensitive information, and one race has become paranoid at this stage of its development. Perhaps the early vessels were sent out with blustering threats or weapons; the "new and improved" enlightened race is now embarrassed and worried, so someone has to clean up the mess before there are red-faced admissions (and detonations). Trying to track down centuries-old trajectories may be problematic.

*Riddle Me This:* Having discovered a probe, the scientists find a puzzle contained within. The team has to figure it out in order to please the senders or receive a reward (say, a set of blueprints for an FTL radio). This might be one moment in a larger campaign where the heroes have to work out the aliens' riddle to make contact, or the whole game may center on a single multi-stage enigma. (Part one of the formula is to find the Seven Temples of Ramuria; only then, when the team sees the aliens work in base-3.1415, does the next part of the puzzle even make sense.) It's not just an issue of figuring out a cosmic joke; the trick is to understand how the race thinks or to understand their culture overall. Then again, the senders may just value a great brainteaser, ultimately expecting an equally challenging puzzler in return . . .

*Fool Me Once:* This adventure centers on cons and hoaxes. A race arrives on site after a probe lands and makes contact with the natives, but it's not really their probe. They detected the signals from nearby and are using its presence to get in good with the race. Posing as the senders, they're working a con or attempting a military ploy. The heroes could be these starfaring grifters or they might be the ones who uncover the scheme; if the latter, they're unlikely to be heeded without some kind of proof. Reversing these events, maybe the con was already in place – the visitors claim to be the descendants of the long-rumored Galactic Ancients – and the imminent arrival of probes from the real Ancients threatens to expose these plots. Gaining control of the probe itself may be the goal.

*There's a Mess All Right, but No Messiah:* The probe is seen as the herald of the gods. The heroes might be trying to maintain order in a world gone mad, where everyone insists

Judgment Day is at hand now that the sky is falling. Or perhaps they are the device's *inventors*, needing to find a way to gently inform their new friends that they're not saviors (preferably without alienating everyone on the planet). If this timely arrival meets some ancient criteria for the fulfillment of a prophecy, the problem is bigger than just claiming not to be gods. The wheels are already in motion, so the team might have to look into the details of the legend to help settle the matter and prove it's all just science (which, ironically, may mean they really are the prophets).

*Now That That's Settled:* The probe made contact, the races have met, and trade routes have been established. The equipment is now unnecessary – or is it? As a keepsake, collectors' item, and curio, it has value to a number of people. The PCs can be chosen as mediators, requiring them to sort out the legal and moral quandaries. Maybe the receivers want to keep it since it was sent to them, while the senders feel it belongs in their museum. Everyone was playing nice and now it's up to the protagonists to keep a good thing from unraveling.

*Lead On, MacDuff:* A military probe arrives at the heroes' homeworld, ready for a fight. Fortunately for them, its AI realizes circumstances have changed since it was programmed: The people it was meant to target died out long ago, and it has no intention of harming this second civilization. However, the homeworld could use new supplies or materiel for its own war effort (perhaps a different galactic enemy), which isn't going too well. The probe may have old files about a rumored outpost, and these rumors correspond with legends the heroes know. As a dangerous game, the investigators could point the probe toward likely coordinates and see what it comes up with, then try to swoop in and grab that rediscovered war machine from the mothballs before the probe destroys it. If the sending species and the heroes' world weren't at odds before, they might be now.

*Sometimes I think we're alone in the universe, and sometimes I think we're not. In either case the idea is staggering.*

*– Arthur C. Clarke*

## THE FINAL MESSAGE

A probe is a good metaphor for running RPGs in general. Players can use them variously to sample portions of the GM's campaign. If the group seems interested in a resulting storyline, the project pans out; if not, the GM tells everyone the device crashed into a moon, and the screen fades to the next scene. Coming or going, probes are a good way to test the galactic waters.

## ABOUT THE AUTHOR

Andy Vetromile is a freelance writer and editor with an insatiable taste for games. He's been reviewing them for over 10 years and still can't wait for the next release. He has also contributed to *Pyramid* and edited several *GURPS* books.

# LOOTING YOUR LIFE POD'S LOCKER

BY KEN SPENCER

*Petty Officer Second Class Ernesto surveyed the area around the escape pod. At least the terrain looked promising, temperate and lush and not terribly rugged. He hadn't had time to notice much about the three others who climbed into the pod as the **Jamestown** was breaking apart. Specialist Samir was one of the ship's engineers, Edwards had been in the refresher and had jumped into the pod naked and soaking wet, and the last survivor was a passenger. That one was a kar, and Ernesto had no idea what kar ate, drink, or needed as far as life support. "Nothing to do now," he thought, "but check out the equipment locker in the pod and hope for rescue."*

Just what will Ernesto find in that equipment locker? **GURPS Ultra-Tech** details life pods (p. 232), describing their general characteristics: how they operate, the number of people they can hold, their life support and flight characteristics. There is even mention of two lockers holding 200 lbs. of survival and medical equipment; however, the exact contents of those lockers are left unspecified. So, what is in those lockers?

The contents of the lockers will vary depending on the technological level and quality of the life pod, the species that built and stocked the pod, and any special considerations that the pod's designers felt necessary. The lists below separate life pods into three general levels of quality (economy, standard, and luxury), and two special considerations (military and exploration). The base tech level for these pods is TL9, but they are easily upgraded to higher tech levels using the rules from **Ultra-Tech**.

Each campaign will have a different set of alien species that inhabit it, and they each will have specific dietary and life-support needs. The lists below assume a human standard; however, other species build life pods for their own use and stock them with items that they need. When using a life pod designed for an alien species, food and atmospheric compatibility should be the primary concern. Some species may require an exotic atmosphere or varying air pressure, and their life pods' life-support systems will reflect that. Survival rations are concentrated foods that contain the nutrients needed to

support an adult of the species they are designed for. As such, they will not have much in the way of extraneous nutrients and may not be able to keep a different species healthy (assuming they are not toxic to begin with). It should be noted that in the real world, survival rations kept in ship's life boats are generally designed to be palatable but just barely; this is to keep bored or gluttonous sailors from raiding the survival lockers for a snack. There is no reason that this practice would not be carried into space.

## ECONOMY LIFE PODS

Economy life pods are meant for the ship owner on a budget. They provide the minimum amount of life support and supplies, with a minimum of cost. Many economy life pods are standard or even luxury pods that have been salvaged and refitted. Buyers who are particularly lucky may even find some of the higher-class fittings still inside. Such pods might be found on free traders, mass cargo haulers, older ships, and (of course) those owned by adventurers. The equipment locker is smaller and not equipped to the same level as the standard life pod. Housed inside are 120 man-days worth of food paste in easy-to-use squeeze tubes. These run the gamut from tasteless to the infamous "tuna surprise." Water is recycled through the pod's life-support system.

Economy pods also contain a basic first aid kit (**Ultra-Tech**, p. 198), a heavy flashlight (**Ultra-Tech**, p. 74), a fire extinguisher (**Ultra-Tech**, p. 87), and a pack of old glow sticks (**Ultra-Tech**, p. 74 – the sticks have a 50% chance of working). Two B cells (**Ultra-Tech**, p. 19) provide power the flashlight, and they can be recharged at a port on the life pod's control console. Unlike the standard model (below) that sports a programmable camouflage skin to enhance visibility, the economy model is painted in a bright orange color and is radar reflective. Included are four light-weight jumpsuits, also of an easy-to-see bright orange. Lucky passengers might find a deck of cards or some dice.

*Heroes can alter or improve gear in their pods, but they'll probably have to do so with their own money.*

Mostly, those aboard an economy life pod just get to spend time waiting to be rescued staring at their fellow survivors. The economy model is a steal at a mere \$65,000.

## STANDARD LIFE PODS

These are the life pods as described in *Ultra-Tech* (p. 232), and are the most common throughout the galaxy. Standard life pods see use in most corporate- or government-run ships, especially those that fall under some form of regulation. Passenger ships also carry standard life pods, though the cheaper the ticket, the cheaper the pods, and the quality of life pod varies depending on the class of passenger (steerage, middle, high) they are intended for.

The equipment locker is well-stocked with an eye toward being prepared for the most likely emergencies. There are 180 meals of survival rations, allowing four people to eat two meals a day for 22 days. Each ration contains the nutrients needed by a normal adult human. Water is provided by tanks inside the pod and supplemented via recycling through the life-support system. A medium radio and four small radios (*Ultra-Tech*, p. 44) allow people to keep in touch with each other and the pod. Vision and lighting are furnished through one heavy and four mini flashlights (*Ultra-Tech*, p. 74), two pairs of binoculars (*Ultra-Tech*, p. 60) with IR and night vision, and a pack of 10 glow sticks (*Ultra-Tech*, p. 74).

For situations where the survivors need to exit the life pod and live outside, a four-man tent (*Ultra-Tech*, p. 76), four envirobags (*Ultra-Tech*, p. 75), two collapsible pack frames, a nesting cook set with cutlery, four filtration canteens (*Ultra-Tech*, p. 75), and 100 yards of 3/16" diameter rope is included. A large medical kit contains a set of surgeon's tools, eight bandage spray cans (*Ultra-Tech*, p. 197), and 10 doses each of Analgine, Antirad, Hyperstim, Morphazine, and Soothe (*Ultra-Tech*, p. 205). Four smaller personal first aid kits (*Ultra-Tech*, p. 198) provide for basic cut and burn care and supplement the medical kit.

In case of a long stay, four fire starters, a basic set of power tools (*Ultra-Tech*, p. 81), and two mini tool kits (*Ultra-Tech*, p. 82) will prove helpful. Four survival knives and four civilian survival suits (*Ultra-Tech*, p. 177) with adjustable footwear round out the basic equipment. Small features such as toiletries, a book reader (*Ultra-Tech*, p. 51), a data player (*Ultra-Tech*, p. 51), and an assortment of entertainment and survival chips are also included. There are double the minimum needed power cells for every device, as well as recharge slots in the life pod's console.

## LUXURY LIFE PODS

The Cadillac of life pods, luxury pods have several extra features designed with the discriminating client in mind. All the internal fittings are of the highest quality, as is the equipment in the lockers. Treat all equipment as both rugged and stylish (*Ultra-Tech*, p. 15), as no expense was spared making survivors both comfortable and safe. A luxury life pod will have the same equipment and supplies as the standard model (above), with a few upgrades. Instead of survival rations, there are 360 meal packs, allowing each occupant to eat three meals a day for a month. These taste far better than survival rations, breaking the tradition of making emergency food supplies barely palatable.

Any personal equipment listed under the standard model is always in sets of four – people who can afford the luxury model are ones who needn't share. Replace the binoculars with hyper-spectral imaging goggles (*Ultra-Tech*, p. 61) and the four-man tent with four personal pressure tents (*Ultra-Tech*, p. 76). Add four biomonitor bracelets (*Ultra-Tech*, p. 197) and a hovercart (*Ultra-Tech*, p. 75) to the list of equipment, and upgrade the survival knives to superfine quality (*Ultra-Tech*, p. 163). In order to while away the long hours until rescue, the life pod's computer includes VR games and programs, a virtual tutor (*Ultra-Tech*, p. 56) covering basic survival and medical procedures, and a better selection of chips for the data players and book readers. All this for only \$250,000!

## MILITARY LIFE PODS

Military personnel are expected not to just sit around and wait for retrieval, but they're likely to be in less-than-friendly circumstances. Thus military life pods are designed with escape, evasion, and survival in mind. The pod itself has a greater number of programmable camouflage options (*Ultra-Tech*, p. 99), from high visibility to concealable. Equipment comes ruggedized (*Ultra-Tech*, p. 15) and miniaturized if possible. Use the equipment list for the standard life pod (above), but increase quantities of all personal items to four, and double the number of power cells of all sizes (each powered item has a spare cell). The survival suits also have programmable camouflage systems, and all the equipment is in neutral colors. The radios are capable of encrypted communications (*Ultra-Tech*, p. 47). Replace the survival rations with a like number of food paste tubes.

Whereas civilian models do not offer firearms (to avoid the danger of accidental shootings), add four 7mmCL assault carbines (*Ultra-Tech*, p. 136) and 800 rounds of ammunition. Remove the book reader and data player from the list, as it is assumed that military personnel will be too busy to need entertaining distractions. Military life pods are unavailable on the open market, but they're sometimes found on the black market for astronomical prices.

## EXPLORATION LIFE PODS

Exploration life pods are intended for use by ships that are operating far from the well-traveled space lanes, and thus may have a longer wait for rescue. The life pod has 360 man-days of life support and power, greatly extending it beyond the usual 90 man-days of the standard pod. Likewise, food and water supplies are larger, providing 360 man-days of food paste (yum!). In all other ways, the equipment locker is stocked to military specs (above), save that the assault carbines are replaced with civilian model 18.5mm shotguns (*Ultra-Tech*, p. 136) and 1,000 rounds of ammunition (200 slugs, 400 double ought, 400 bird shot – *High-Tech*, p. 173). Hope you never need it at the price of \$300,000 to replace it.

## ABOUT THE AUTHOR

Ken Spencer is a freelance writer and former archaeologist who shovel bummed for several years. His work has been published by Chaosium and Alephstar Games, and he has a monthly column, "A Bit of History," on [rpg.net](http://rpg.net).

# RANDOM THOUGHT TABLE

## IN AN INFINITELY MUNDANE COSMOS, THE ONLY IMPOSSIBILITY IS BOREDOM

BY STEVEN MARSH, *PYRAMID* EDITOR

If you were going to pick a spot to explore, “space” would be a good choice. As Douglas Adams began a famous rant, “Space is big.” Sure, it’s filled with a whole lot of nothing, but that’s beside the point.

Regardless of whether you’re playing a hard or soft sci-fi setting, one of the interesting things about a space-exploration campaign is the number of mundane possibilities that exist: obstacles, challenges, goals, wonders. In an exploration game based on a modern or a fantasy world, there’s often a tendency to revel in fantastic complications or story elements. After all, it’s often not very satisfying to quest for months, only to have the big reveal be a huge mound of unremarkable dirt or a desiccated manatee that was mistaken for a mermaid.

### IN THE FUTURE, EVERYTHING IS AWESOME

However, space exploration is different. The very act of being in space is often amazing enough, especially if the gaming group can retain its sense of imagination and wide-eyed wonder.

An excellent example is from the movie *2001: A Space Odyssey*. (I’m feeling no guilt for providing spoilers on a four-decade-old film . . .) The plot of that movie focuses on the hero’s assignment of checking out an ancient alien artifact – that’s the crux of the plot. However, the movie’s most dramatic scene – its emotional core – is the interaction between Dr. Floyd and HAL, the artificial intelligence running the ship. I would argue that the scenes where the two of them are in direct conflict are the most riveting. Most interestingly, they could occur regardless of what the outside plot was!

Similarly, it’s possible to come up with dozens of exploration-based complications and discoveries that are based on at least plausible science. A flip through *GURPS Space* reveals all kinds of possibilities, and scientists frequently come up with new anomalies and mysteries to explore.

So let’s assume that fantastic discoveries are pretty easy to imagine; if an ancient alien species manages to construct a cannon that uses stars as bullets, it’s hard *not* to make that impressive. What if you want to make an exploration goal more “down to Earth” but still fantastic?

### THE ENEMY IS US

In much fiction, one of the most mysterious forces humanity will face when exploring space . . . is humanity. Left to its own devices, mankind is capable of utterly astounding feats – especially if viewed through fresh eyes. Imagine being unfamiliar with Earth, and landing a shuttlecraft outside the Taj Mahal. Or the Burj Khalifa. Or Epcot at the Walt Disney World Resort. (“Why are there so many tiny nations clustered together?!”)

Now, suppose that humans take to the stars, and has a century (or even a few decades) to get lost, make monuments, and construct their own societies. Imagine any fantastic construct on Earth, amplified by the powers of advanced technology.

In short, almost limitless possibilities exist, even if space explorers restricted themselves solely to investigating *man-made* discoveries. As a bonus, just about any human construct can serve as a focal point for a mystery or enigma outside of the gee-whiz-I-got-a-T-shirt exploration angle.

*For descriptions of the planetary bodies that lie beyond the asteroid belt, see *Transhuman Space Classic: Deep Beyond*.*

## Sufficiently Advanced Technology . . .

Some of you reading the example culled from the movie *2001: A Space Odyssey* (see p. 37) are no doubt grumbling that the conflict presented there – an artificial intelligence turning on the ship’s captain – is no more “realistic” than having a magical wizard trying to seize control of the Fountain of Youth. After all, humanity’s advances with magic have progressed about as far as our prowess with AI . . . namely, that we’re pretty good at faking it, but not much else.

Perhaps. Still, I think the difference is that we generally believe that AI is potential if our existing tech advances enough. In other words, if we keep getting better at modeling “intelligent” behavior on a computer, HAL could suddenly become realistic some day. Unless we make a serious off-the-wall discovery, we’ll never be able to replicate most magical effects.

Still, if we meet up in a con, and you’re in the “high tech is the new magic” camp, we can get a beer and debate it.

## WITH THIS FLAG . . .

Once upon a time, explorers generally had to actually reach a point of interest to stake a name or claim. Once humanity’s eyes drifted into space, though, the rules changed so that whoever first gazed upon something got to give it a name.

However, there’s a reasonable chance that’ll change once we get to the stars. As our sensory equipment gets better – capable of more depth and breadth – such “armchair explorers” may be discouraged in favor of folks who are actually willing to go out and poke the unknown. A campaign could be based around explorers seeking fame and fortune by mounting expeditions to visit places of interest in person, enabling them to name it. (Many players *love* naming things!)

As an option that’s less likely but certain to spark the imagination of players, what if the rules change such that previously named locations were permitted to be renamed by intrepid souls willing to visit them in person? “By setting foot here, the iceball formerly known as Halley’s Comet is now . . . *Bob’s Comet!*”

## EXTREMES

On our world, many people who seek to make a claim to fame do so by pushing the envelope. Explorers attempting to conquer Mount Everest did so “because it was there” – and because it was the highest mountain on Earth.

Once people can get off-world, the possibilities for extremes become even more . . . well, extreme. Once we can get our tin cans to Mars, it’s almost certain there will be a scramble to get to the top of Olympus Mons – it’s the tallest known mountain in the *solar system!*

Similarly, assuming humanity isn’t struggling just to survive in space (and probably even if it is), there will be a push to explore the boundaries of the known and possible, setting new records in various circumstances.

Although this can be the basis for a fun campaign, there are some pitfalls. For many, the inclination is to try to allow for ultimate records: Say, “The heroes want to accelerate their ships to the fastest speed of a manmade vessel in the galaxy” or “The heroes want to get as close as they can to the event horizon of a black hole.” The only problem with this approach is that it can be hard to do an encore; if you manage to accelerate your ship to 0.95c, what do you do then – 0.955c?

Perhaps a better tack is to consider having the heroes attempt to conquer *relative* extremes. Sure, they can try to investigate the oldest (seemingly) habitable planet in the galaxy, but from a

player-satisfaction standpoint, they can get just as much enjoyment out of tracking down the oldest (seemingly) habitable planet in the MacGuffin Cluster – and then they’d have something to do next adventure! For an unusual take on a campaign, the heroes might be attempting to corner the market on some unusual open-ended extremity – for example, they might try to scale the tallest mountain of every habitable planet in occupied space. And, of course, each mountain would naturally present its own obstacles and complications . . .

## A MIRACLE IN THE MINUTIA

Many gamers love the idea of making the most with less. Sure, anyone can explore the galaxy if you’re in a state-of-the-art no-expenses-spared luxury starship . . . but it takes true grit and determination to make the most of what you have, when what you have isn’t much.

In a campaign that seeks to tap this urge, bookkeeping is important. The heroes need to know how much money they have so they can buy gear, upgrade their ship, and so on. In a hands-on enough campaign, the composition of gear might be important; imagine trying to recreate the scene in the film *Apollo 13* where the crew needs to create an emergency adapter from the items they have at hand. In this case, having an itemized list of everything on the ship can be essential; in a pinch, the possibility of *Looting Your Life Pod’s Locker* (pp. 35-36) can mean the difference between securing survival and sucking vacuum.

## A FINAL FRONTIER

It’s entirely possible to make a space exploration game that’s fantastic *because* it’s mundane. Really, once you start with a premise that begins, “You’re in control of a freakin’ *spaceship OHMIGOSH-OHMIGOSH-OHMIGOSH* . . .” the rest falls into place pretty easily. Ultimately, humanity’s urge to explore the stars is no more “magical” than the siren’s call that lured sailors to the sea. Yet, really, that’s more than enough magic for an infinite cosmos.

## ABOUT THE EDITOR

Steven Marsh is a freelance writer and editor. He has contributed to roleplaying game releases from Green Ronin, West End Games, White Wolf, Hogshead Publishing, and others. He has been editing *Pyramid* for over 10 years; during that time he has won four Origins awards. He lives in Indiana with his wife, Nikola Vrtis, and their son.

# ODDS AND ENDS

## RUIN AND FEATURE CARDS

Here are a few more ideas we couldn't fit into the *Ruins and More* instruction sheet (p. 19).

### Example Use

Here is a more fully worked example of the basic idea.

The heroes land on an alien island, searching for a cure to a cosmic blight infecting a colony. The GM has prepared four sheets for the bottom layer (consisting of three pages of Blank cards and one page of Ruins) and four sheets of Natural Features. He makes a 6x6 grid and places the PCs in the lower-left corner. (Outside that grid is ocean.)

The GM decides that each section takes a half day of travel and a half day to explore, but he encourages the players to come up with justifications for those times to be shortened or negated each time they move ("Can I make a Survival check to get the group through the Hill/Mountain quickly?").

The GM declares that each High-Tech remnant will buy the colony a extra week if they make an appropriate skill, each Low-Tech remnant represents some kind of dangerous encounter, and the Artifact of Unknown Origin is what the heroes seek. The heroes begin with three weeks to find a cure or the colony is doomed. Good luck!

### One Step Further

After explorers have unearthed a series of ruins, they can begin to figure out the structures' original purposes. That's where the cards used in *Your Very Own Space Colony* (from *Pyramid* #3/6: *Space Colony Alpha*) come in handy. That set of cards features four types of buildings or artificial features that might appear in a colony - Government, Residential/Civic, Industrial, and Commercial.

Once the GM has decided on a layout of ruins, he then selects an equal number of space-colony cards, either randomly choosing them or picking the ones he wants. In this case, the *Ruin cards are on top*, and the Colony cards are buried underneath! As the PCs explore the ruins (using skills and roleplaying to gather sufficient information about the site), the GM reveals their "breakthrough" by showing the players the space-colony card related to part of the dig: "This Half-Buried High-Tech Civilization seemed to be some sort of Incarceration Area." The GM may then provide them additional information about the building and its contents (if there were any), or he might decide that the general function of the structure is all the adventurers were able to figure out.

### Combining Card Decks

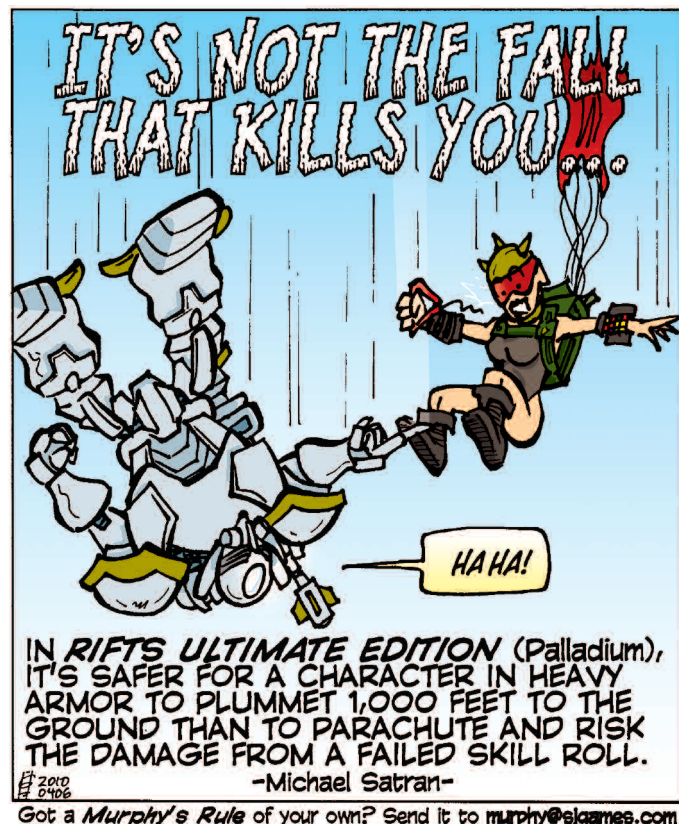
The Ruin and Natural Features cards can also add additional detail to locations created with the *Your Very Own Space Colony* deck. Ruin cards can represent nearby areas

of archaeological interest. In some cases, colonies might have been established as archaeological sites, while in other cases, the unknown ruins simply represent areas the locale has sprawled around. In either case, Ruin cards can represent how the colony relates to those sites. Similarly, many colonies incorporate natural terrain into their structures; there's no sense in leveling a Mountain to build a factory! To that end, Natural Feature cards can depict particularly interesting aspects of the native scenery.

The Blank cards, in addition to representing an empty dig site (as suggested in *The Hills Have Ieeeess!*, p. 19), can be used to customize the types of ruins or natural features found in a specific location. Are three parts to a huge ruined mech buried on this world? No problem; pencil them in and dig!

## MURPHY'S RULES

BY GREG HYLAND



Got a *Murphy's Rule* of your own? Send it to [murphy@sjgames.com](mailto:murphy@sjgames.com)

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