

blue planet™

ANCIENT ECHOES



A SOURCEBOOK FOR
CETACEAN CHARACTERS



ANCIENT ECHOES

BLUE PLANET REVISED EDITION SOURCEBOOK

CREDITS

ANCIENT ECHOES™ REVISED EDITION SOURCEBOOK

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In Tribute: As the first edition of Blue Planet went to press in June of 1997, the world mourned the death of Captain Jacques-Yves Cousteau. In his passing, the Earth's oceans lost one of their greatest champions and humanity lost one of its more noble men. Please honor his memory by honoring the oceans.

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CHAPTER 1: THE NEW WORLD



\\Logon accepted. Secure burst transmission waiting. Accept [y/n]? y

Translation from Burst Transmission

<< classification: Security Eyes Only

<< content: Transcript of mission debriefing. Hydrosan Anti-Sonar Weapons Officer, Thresher [Related File on Record—Link]

<< AUDIO TRANSCRIPT START/TIMESTAMP 283409PAT06062349 >>

<< voiceprint: Lt. Samuel Rennick >>

Rennick: Hydrosan Security. This operating room is sealed for debriefing. Thresher! Thresher, can you hear me? It's Sam.

<< vocaliser dataprint: Thresher, Dolphin, registration #991-22-3456-9177>>

Thresher: Sam? I can't... I can't see you. Where am I? Am I still in the water? Where's Danny?

Rennick: OK, Thresher. I need to know about the mission. You have to focus for me. Can you do that?

<< voiceprint: Allen Cohen, DVM, PhD >>

Cohen: Lieutenant, I need you to leave here immediately! If you wanna talk, you gotta wait. I'll call security if I have to.

Rennick: Doctor, I am security. Just do the best you can.

Thresher: Danny...

Rennick: I need this fin to report, and I can't have her looped on painkillers. Wake her up.

Cohen: I can't do that until...

Rennick: Do it, or you're under arrest. NOW, doctor!

Cohen: Very well, Lieutenant, but you're taking responsibility for this. Turn the dosimeter down to .200. Shimano, watch the vital signs for any changes. We'll have to do a spinal block instead. Joe, you've got another bleeder, watch it.

Rennick: Thresher, you claimed at pickup that teams Alpha and Bravo were attacked on the return route by a lesser white and additional unidentified creatures. Please describe that again.

Cohen: Get that damn recorder outta my light, Lieutenant!

Thresher: Danny, I feel awful.

Rennick: No, Thresher—it's me, Sam. It's time to report. What happened?

Thresher: Human team Alpha in formation, Bravo elements outriding. DeepSix detected a large contact approaching fast. I knew it was a lesser white, even before I heard the bone echoes. Alerted Danny... uh, Lt. Greene, who released countermeasures. No luck. Tried to divert the attack by ramming white. No luck. Team Alpha used antipersonnel ordnance in attempt to divert attack. No luck. White got them all except DeepSix and me. We couldn't save them. Out of ordnance. We couldn't even get its attention.

Rennick: Why do you think you and the orca were spared?

Thresher: It was the soft ones. We didn't notice them at first. No bones. All soft. They came during the attack, they watched it. Then they took DeepSix. He was trying to save Lt. Greene. He charged them and they floated, but then he stopped and floated. The white floated, too. I could still hear Danny, but he ordered me to retreat. The white didn't even bite him. It just swallowed him up. He's inside the white. His gill should still be working. You can still find him. You can still get him out of there—you have to find him.

Rennick: About DeepSix. What happened to him?

Thresher: The soft ones took him. They took off his harness, wrapped themselves around him, and swam away. He said something, but I can't remember. Then the white came for me. I wouldn't have made it if I hadn't rigged for emergency and released my harness. The white went for the bangers and got the harness, but not me. I made it. We can go back. I'll listen for the pinger. Please, take me back out. Please... please.

<< voiceprint: Kai Shimano, RVN >>

Shimano: Pressure is falling, Doctor. Pulse thready.

Cohen: Pain's throwing her into shock. Bring the drip back up to .350. Get me another five units of whole blood. Lieutenant, that is all the questioning she can take for now. She's lost her tail, for chrissakes! I can't believe she's still alive, much less conscious. You can arrest me later if you want, but your little interview is over! Somebody get this man out of my operating room!

Rennick: One more question. Thresher, did Lt. Greene still have the recovery with him? Is the recovery in the white, or did it sink during the attack? Where is the recovery, Thresher?

Thresher: I remember what he said now... He said, "You're so beautiful. Can I touch you?" I remember. They were pretty... Can we go back and find them, Danny? I can hear the pinger..."

Cohen: She's crashing! Code Blue! Code Blue!

<< AUDIO TRANSCRIPT END >>

THE CETACEAN WORLD

Ancient Echoes is the third book in the BLUE PLANET REVISED EDITION™ roleplaying game line. It is an updated and revised version of the BP2 sourcebook, detailing cetacean characters and their roles on Earth and Poseidon in 2199. This book provides the information that players and Game Masters need to integrate cetacean characters into their BLUE PLANET games. *Ancient Echoes* requires use of the BLUE PLANET *Player's Guide* for game play (though it makes great reading for fans of all things cetacean).

Chapter 1: New to the World provides an overview of genlifted cetaceans in the world of BLUE PLANET. It covers their future history, including their experiences during genlift, the Blight, the Athena Project, and the colonization of Poseidon.

Chapter 2: Biology (p. 22) presents detailed information on the biology of genlifted cetaceans. This chapter includes details on three new cete species that can be played as characters in a BLUE PLANET game: common dolphins, belugas, and pilot whales.

Chapter 3: Culture (p. 47) offers detailed information on the culture of genlifted cetaceans. It presents a comprehensive discussion of the Church of the Whalesong, the Cetacean Cultural State, and other institutions of cetacean culture and society.

Chapter 4: Life on Poseidon (p. 76) provides an overview of the cetacean experience on Poseidon. It covers relations between the whale species and between whales and humans. It presents detailed information on cetacean lifestyles and professions and includes complete descriptions of two major cetacean communities: New Fremantle and Philadelphia.

Chapter 5: Cetacean Characters (p. 109) offers guidelines on creating and running cetacean characters. It includes a comprehensive discussion of remotes and telepresence, including a new remote construction system, and offers a selection of new equipment available to cetacean characters.

FUTURE HISTORY

THE GOTTFRIED PROJECT

Like many revolutionary advancements in science, the technique for genlifting cetaceans to human intelligence came about by accident. Dr. Marcos Gottfried was the leading researcher in the field of cetacean communication in the mid-21st century. In 2042 he was working at the Woods Hole Oceanographic Institute. There, with a team of geneticists and neurologists from Johns Hopkins University, he began experimenting with genetic therapy in hopes of enhancing cetacean cognition, and through that enhancement, improving human-cetacean communication.

The breakthrough occurred when the team infected a group of five bottlenose dolphins with a viral therapy intended to supplement the production of certain neurotransmitters in the cognitive regions of their brains. At first no one could tell anything

momentous had occurred. The cetaceans seemed more attentive and vocal, but the researchers only began to take notice when the dolphins resumed training. Their ability to follow commands became absolute, and their old sign language vocabularies grew at an unprecedented rate.

Nobody knows exactly what those original cetaceans experienced when they first awoke into sentience. The trainers observed significant changes in their behavior and vocalizations. The five lost interest in the training routines, yet seemed to want something from the trainers. The cetaceans would stare at them with uncanny looks, yet react with disinterest if they offered fish or other rewards. The trainers also noticed attempts to imitate human sounds, as if the dolphins were trying to copy their speech. The modified dolphins began to spend their time swimming along slowly together repeating familiar calls and

THE GOTTFRIED PROTOCOL

Gottfried always claimed that his famous genlift therapy was “one of the most sublime accidents in the history of science.” He claimed the results of his work were unintentionally profound and throughout his life he maintained a genuine modesty regarding his role in bringing cetaceans to sentience.

Gottfried was originally a geneticist recruited by the Woods Hole Oceanographic Institute to develop genetic therapies that might be used to help treat a variety of medical conditions common in captive dolphins. During his exposure to the animals Gottfried found his true calling, however, and ultimately became an impassioned cetacean researcher and a staunch whale conservationist. Gottfried was obsessed with dolphin communication and a desire for genuine dialog with the animals. Though basic sign language communication between humans and cetaceans had existed for years, Gottfried longed for something more. In an unorthodox attempt to find this higher level of communication he turned to the unlikely tool of genetic therapy.

For years medical centers around the world had been treating victims of stroke with a variety of therapies designed to rebuild damaged neural tissues and increase the number of synapses between the remaining tissues. Such therapies met with variable success, but did sometimes serve to reestablish lost cognitive abilities. In a radical leap of faith that even he assumed was likely to fail, Gottfried, with the help of some old colleagues at Johns Hopkins University, began a series of trials to adapt these reconstructive therapies to dolphins. Even at the time of the first in vivo application Gottfried and his team were skeptical about the possible results, and still today the exact physical and physiological changes the therapy creates in the cetacean brain are not fully understood. In fact, though many labs have tried to duplicate the results with other species of animals—primates, dogs, sea lions, and even parrots—none have succeeded.

creating new ones never heard before. The cetaceans seemed to be developing a language of their own.

The trainers dropped their simplistic routines and began developing a more robust system for teaching and communicating with the dolphins. Gottfried spent hours in the tanks, working out more effective ways to communicate with the changed animals. In the process, Interspecies, the language based on gesture and cetacean vocalizations that finally allowed cetaceans to truly talk with humans, was born.

As the research team managed to develop Interspecies into a workable language and teach it to the five cetaceans, their first communications with humans were all questions: Where were they? Why were they there? What happened? Gottfried and the others struggled to explain these fundamental questions, but the dolphins’ gulf of ignorance about the human world and the limitations of the rudimentary language made it difficult to provide satisfactory answers.

In time, Gottfried noticed that the five dolphins were responding to what he was about to say before he had communicated the thought to them in Interspecies. At first it was eerie, and several of the train-

ers became convinced that the dolphins could read minds. Gottfried was too rational to believe that, and he soon realized that the dolphins understood human speech. The dolphins were eavesdropping on him and the other trainers and therefore knew what he intended to say before he said it. He asked the dolphins why they had not simply told him that they could understand human language. They had trouble expressing their reasons, but eventually Gottfried understood. The dolphins thought it was funny. It was the first, but by no means the last, time that humans found themselves perplexed by the irreverent and often incomprehensible cetacean sense of humor. Nonetheless, Gottfried immediately recognized the huge advantage this ability presented for simplifying human-cetacean communication. The dolphins could understand human speech; they just could not produce it. He added English to their Interspecies language lessons.

Gottfried chose to keep the team’s achievement secret at first. He wanted to discover the full extent of the cetaceans’ abilities and further develop Interspecies language before dealing with the wild publicity he knew would follow the announcement of

his findings. After several months of testing and working with the “Five,” as they would eventually become known, all his original hopes were confirmed. They were puzzled, frightened, and completely uneducated, but they possessed all the mental capabilities of humans. Gottfried’s vision had been achieved with incredible and far-reaching results.

The public was stunned. Such a technological development was completely unlooked for and promised implications no one could foresee. Some welcomed the breakthrough as one more amazing testimony to human ingenuity. Many animal researchers saw it as confirmation of what they had long thought: humans are not unique among the animals; they just got to sentience first. Others welcomed cetaceans as equal and unique members of the sentient community, anxious to discover what new ideas and abilities they could contribute. Some simply refused to believe it, calling it all a big hoax. They seemed to take consolation in the thought that despite all evidence to the contrary, these creatures were not actually very smart. The media exaggerated the possibilities of the new technology, creating public fears with their wild predictions about what animals might next be given human intelligence.

Many religious communities were thrown into confusion. This advancement seemed to deny all their claims about humans’ special place in the world. Some religious leaders claimed that science had gone against nature by playing God. They wanted the “monsters” destroyed and the technology banned. A group of extremists even tried to poi-

son the dolphins’ Woods Hole food supply. Some denominations circumvented the problem by saying that cetacean sentience was merely the work of man and not a gift of God, which meant that cetaceans were still not humans’ true equals. Other religions took a more thoughtful approach, studying their holy books and debating among themselves to figure out what to make of this momentous change in their understanding of the world. The most open-minded clerics accepted the news with little trouble, content to share the world with other animals of equal abilities.

Gottfried wanted to proceed cautiously in the spread of the new technology. He took an unusual step for a scientist and refused to share his team’s methods with the rest of the scientific community. He was watching the incredibly difficult transition the Five were enduring, and he wanted to make sure he was able to help subsequent cetaceans through the change. After genlifiting eight other bottlenoses at Woods Hole and successfully using the Five to teach them the new languages and to gently usher them into their new lives, Gottfried and his team began to travel to various holding facilities around the world. They brought with them a contingent of modified dolphins to help administer the therapy to more bottlenoses. Gottfried was determined to ensure that the species would be able to survive by genlifiting as many healthy dolphins as he possibly could. Governments around the world debated about what should be done about this new technology, but before they could reach consensus and act, the decision was

Using a series of retroviral therapies that targeted the major cognitive centers of the dolphin brain, Gottfried’s team generated only two physically measurable results. They increased the average number of synaptic interconnections between the neurons of the cortex, and precipitated a slight alteration in the proportions of various neurotransmitters. Alone, these conditions did not seem enough to create such profound changes in cetacean cognition, and in fact were arguably sufficient to be considered brain damage. In the end, however, even the most knowledgeable neurologists were forced to attribute the genlift effect to the “synergistic chemical vagaries that are the demonstrated but mysterious realm of a living brain.”

Initially, each new generation had to receive the therapy treatments post-natally, and for obvious reasons this necessity was inefficient and cumbersome. It also served to emphasize the continued dependence of cetacean sentience on medical beneficence. Finally, in 2066, a fin geneticist named Gene was able to incorporate the genetic components of the Gottfried therapy directly into the germ cell genome of adult cetes. This breakthrough gave cetaceans the heritage of sentience in their own right, and ultimately served as the groundwork for the same genetic inclusions that allow Poseidon’s natives to breed true.

out of their hands. The therapy had been spread too widely to be stopped.

Gottfried could not keep the secret to himself, however. Once other scientists knew it could be done, their own experimentation revealed the technique. Gottfried tried hard to establish working relationships with the other scientists who discovered the technique, enlisting their help in genlifting a viable population of bottlenoses and using already modified dolphins to help. He was mostly successful in these efforts.

The military pushed research on developing the technology to genlift orcas as well. Gottfried resisted it, wanting to avoid new complications that might also draw funding away from his mission to save the bottlenoses. The military managed to find other scientists willing to take their money to experiment on orcas, but the results were disastrous. The first genlifted orcas awoke completely apathetic about learning or interacting, willing only to float mindlessly in their tanks. The second group became incredibly violent. They managed to kill two trainers and a scientist and horribly maim each other before they could be tranquilized. When Gottfried discovered what these researchers were doing, he realized that developing the technology for other species was inevitable, and if it was going to be done, it had to be done right. In 2044 his original team worked out the technique for genlifting orcas, and then expanded their global effort, administering the therapy to both dolphins and orcas around the world.

Gottfried was single-minded in his determination to genlift enough animals to make a viable population of both species. By the late 2040s, most of the bottlenoses and orcas in captivity, and many newly captured, had been genlifted. Gottfried turned his attention to the remaining cetacean species. A small number of individuals from a handful of rarer species still lingered both in captivity and in the wild, but Gottfried knew that they were too few and likely doomed to extinction. Pilot whales and common dolphins, on the other hand, were both numerous enough that he thought they might survive if he could genlift the species. Of the two, pilot whales were in the most immediate danger of extinction, and by 2050 the team had designed a successful therapy for modifying pilots. They were harder to find, with only a handful in captivity and not many more in the wild, but his network of researchers, environmental organizations, and volunteers

worked tirelessly to locate, capture, and genlift as many as they could.

CETACEANS AND HUMANITY

As Gottfried continued his uplift efforts, the complications resulting from the creation of an entirely new class of sentient animals became increasingly apparent. Research facilities that had been eager to have their cetaceans undergo the therapy now began to wonder what to do with them. The whales were not the passive subjects they had been before—they were asking questions and making demands. Some refused to be experimented on anymore. They demanded release from their tanks and pens and access to study materials and teachers. Some of them grew listless and lost interest in everything; a few even died. Many researchers tried to turn over responsibility for the animals to their respective governments, but politicians were even less capable of understanding and handling the situation. Countries did not know what rights to grant them or even whether to consider them citizens. Sentient cetaceans had become numerous and public enough that something needed to be done.

Public opinion finally forced enough governments to focus on the issue that global action was taken. The UN became involved and in 2055 declared a moratorium on all genlifting activities. While the courts and the legislators were sorting out the cetaceans' status, many governments agreed to provide small subsidies for the support and maintenance of genlifted cetaceans in their countries. Several research and environmental organizations around the world worked to establish special facilities to harbor the modified creatures. Most were glad to leave the prison-like labs where they had been genlifted and gather in more spacious surroundings with others like themselves.

The legal standing of these modified sentients remained uncertain for several years. Cetaceans were not recognized anywhere as having "human rights" under the law, and nobody really knew how best to fit them into the world. Oil companies, fishermen, and other marine industries feared that cetaceans might try to stake out legal claims on ocean territories. Strangely enough, cetaceans first found their best protection in their status as endangered species rather than as citizens with inalienable rights. Lawyers under the auspices of Amnesty International and other human rights groups labored to

help cetaceans gain full recognition as equal members of society, but met with little success until the early 2060s.

Even more disheartening than whale legal status was the extreme prejudice cetaceans faced in human society. They were depicted in movies and the media as either stupid, blundering villains or enlightened-yet-tragic noble savages. Most humans seemed to regard them as freakish novelties instead of fully sentient beings with complete identities of their own. Humans were also slow to recognize the special talents and abilities these unique creatures had to offer the world.

For these reasons, the first generation of cetaceans stayed close to the facilities that took them in, living off government subsidies and educating themselves. They worked with their benefactors to gain access to educational resources and teachers and delved into everything—language, history, math, science, social customs, human culture, literature, economics, law, and more.

At the same time, scientists continued to study the modified cetaceans—now only with their permission—and rapidly gained exciting new insights into cognitive therapy, genetics, cetology, anthropology, sociology, linguistics, and marine science. However, many whales now demanded true partnership with their scientific colleagues, wanting to participate in the design and execution of cetacean studies of their own—and wanting the same chance to study and experiment on the human scientists. Some researchers could not handle this kind of unorthodox relationship with their subjects. Others, though, were intrigued by these proposals and worked out ways to meet the cetaceans' demands, resulting in fruitful partnerships for both sides.

THE REAL WORLD

Within the first two generations, cetacean language and Interspecies became fully developed communication systems. Prime Singer introduced the Whalesong into cetacean culture, and subsequent generations of cetaceans adapted more readily with the help of elders to guide them. Cetaceans began to venture outside of their support facilities and into the larger world. Some were so devastated by the scope of human environmental destruction and what amounted to genocide against their ancestors that many whales chose to divorce themselves from human culture entirely. They sought out the most



remote areas of the oceans and essentially returned to a primitive way of life. Others were willing to give humans a second chance. After all, they were their ultimate benefactors. Curious about human ways, many of these cetaceans looked for opportunities to work in the human world. Through this act of forgiveness and curiosity, cetaceans took their first and perhaps most important strokes towards acceptance as true citizens of the world.

Genlifted cetaceans quickly discovered that life outside of their support facilities was not what they had imagined. In the sheltered environment of their habitats they were respected, understood, and valued. They found the larger world to be quite a different place. Humans reacted to the whales as oddities. A cetacean could rarely appear in public without drawing undue and usually inappropriate attention. Humans would surround them with boats and talk about them as if they weren't there, often entering the water, invading their privacy, and even touching them without permission. The cetaceans used the physical cues and spoken warnings they had been taught to dissuade such rude behavior, but often with little success. Given these circumstances, the infamous Mobile Bay Incident was probably inevitable.

The incredible amount of press the incident generated at the time was largely sensationalistic, misleading, and contradictory, and the actual circumstances are clouded by history. Now, only the results and consequences are known for sure. A human male by the name of Hulston was killed by a male orca named Golden. The descriptions of witnesses vary widely but it seems that Hulston was harassing the whale, oblivious to his increasing frustration. In a sudden outburst of anger, Golden swatted Hulston with his flukes, instantly breaking the man's neck. As unintentional as the result may have been, a genlifted cetacean had killed a human being.

The Cetacean Cultural State

The heated public debate over what to do about Golden revealed how much was still unclear about the legal standing of genlifted whales. He couldn't be prosecuted because cetaceans were not yet considered people, so the laws technically didn't apply to him. Many called for the orca to be put down, but that seemed unfair without a trial as he was after all a sentient creature. In the end, Golden was forced to live the rest of his life in the relative isolation of a government cetacean support facility. Legislatures in many countries passed crime bills specifically aimed at cetaceans, but most of them were never enacted since whales were not yet considered citizens.

In the end, a string of less infamous legal and civil cases lead several European countries to grant their whales citizenship—not because they actually valued them as sentient creatures, but because they wanted to be able to hold them accountable to their laws. When Spain, England, and Greece led the way in 2062, most other countries were quick to follow and soon most cetes nominally became nationals of one country or another. Unfortunately this new legal standing made little positive difference in their lives. Most became citizens only to continue their government subsidies or make themselves eligible for employment. They identified little with their new nationalities; their true loyalties belonged to their species and their individual pods.

Though human laws were slowly amended to include cetaceans, whales eventually felt the need to establish certain laws of their own. The substantial differences between human and cetacean culture sometimes resulted in legal punishment for acts that were natural parts of cetacean society. For instance, cetaceans wanted to retain the right to euthanize

severely deformed newborns and to shun podmates who betrayed their pod. At first cetacean advocate groups lobbied within individual countries for these legal rights, but met with little success. Eventually these groups petitioned the United Nations to recognize a sort of cultural nation among nations, acknowledging a dual citizenship for all cetaceans—one in their country and one in a global cetacean state.

UN delegates were reluctant to consider the issue until the now-famous case of Seeker vs. The United States came before the US Supreme Court and established the precedent of cetacean exemption from certain laws on the principle of legislation without representation. Basing their case on the popularized justification for the American Revolution, the dolphin lawyers were able to force the US government to acknowledge the species bias of many federal laws. This legal momentum worked to overcome the reluctance of the United Nations and its member states, and in 2071, the UN officially recognized the separate and sovereign Cetacean Cultural State and awarded it full voting membership.

The Cetacean Cultural State is unprecedented in the history of world politics. The cetacean state has little involvement in the daily lives of its citizens, instead serving primarily as a whale rights organization. The CCS works globally through political diplomacy and an army of lawyers to protect the civil rights and interests of all cetaceans. The organization has grown in influence as genlifted cetacean populations have grown in size and is subsidized primarily by Hydrospace, government grants, and private endowments. As yet there is no taxation of its citizenry, but most whales enthusiastically contribute significant portions of their yearly income to the organization.

The organization maintains offices both on Earth and Poseidon. The top CCS officials are elected every five years by an organization-wide vote, but oddly there is often a lack of candidates willing to run for the various posts. The cooperative nature of cetacean pod structure is apparently ill suited to the active pursuit of positions of higher authority. As a result, CCS officers are often reluctant public servants who accept appointment only out of a broadly applied sense of pod loyalty and responsibility.

From the start, the CCS was a controversial entity and in many respects remains so today. Many national governments object to the legal status of the organization, and some still refuse to recognize its authority. Many countries, corporations, and individuals

claim the organization represents illegal and biased economic and political favoritism. The Incorporate, however, sensitive to the fact that their legal existence is in part derived from the precedent set by the creation of the CCS, support the organization, albeit if only through their lack of protest.

Human civil and religious groups still hotly contest many of the whale-specific laws the Cetacean Cultural State has enacted, such as the right to kill deformed newborns. Additionally, cetacean concepts of property rights and fair economic practices often bring them into legal conflict with companies and individuals unfamiliar with their culture. Such laws have even resulted in various civil suits regarding human membership in, and subsequent shunning from, whale pods. Though the legal challenges have been numerous and varied, the Cetacean Cultural State with its growing code of cetacean-specific laws has slowly become an accepted and viable global institution.

Cetaceans in the Workforce

Cetes most readily found work in ranks of the United States and allied navies. The US Navy had been the single biggest contributor to Gottfried's work, and had long experimented with using primal cetaceans for various marine operations. Most cetes in the military found themselves working in underwater demolitions or intelligence gathering. Orcas and pilots were especially drawn to this line of work. While military personnel working with cetaceans were generally respectful and knowledgeable, whales in the armed forces were more often treated more like matériel than personnel, and their opportunities for advancement were limited.

Others found jobs in the civilian world as aquaculturists, fishery workers, and research assistants. Other marine applications such as surveying, drilling, and shipping provided an obvious fit for cetacean abilities. A number of human promoters were very interested in hiring modified cetaceans to perform in traveling shows. The public was fascinated by dolphins that could talk, and would gladly pay to see them live. Many disdained this kind of work and had little respect for those who chose it, though most who did saw it as a great way to see the world and study human culture at close range.

Cetes were welcomed by employers, but once they began to prove their worth and more of them entered human fields, many human workers began to

rebel. They feared for their jobs and banded together to protect their way of life. Some of them went on strike, paralyzed operations, or terrorized cetacean workers. Others pursued legal channels, lobbying for laws and policies that would protect their jobs. Some cetaceans fought back, using what legal resources they could. Others gave up, disillusioned with human intolerance. Some ignored the backlash as best they could and just went on working.

Eventually an equilibrium of sorts was reached. Employers wanting to attract cetaceans either replaced all affected human workers outright or else retrained the displaced human workers for other positions. In time some of the paranoia died down as humans in these affected fields realized they were not all going to be replaced.

When Hydrosplan was established in 2068, cetacean workers left their jobs with other companies in droves. They were naturally drawn to an institution where they would be accepted without resistance or glass ceilings. Working for Hydrosplan offered an escape from life as a misunderstood and overlooked workforce minority.

The Athena Project

While cetaceans had made some progress in the first decades after genlift, many were still frustrated by their place in a human-dominated world. Most career options were closed to cetaceans, and advancement opportunities were limited by extreme bias in those fields where they could find work. The full extent of their legal rights had yet to be realized, and they were subjected to prejudice on almost every front. They were even forced to compete with humans for fishing rights in the increasingly polluted and over-harvested oceans.

Because cetacean abilities were still so poorly respected in the world at large, only a small number of slots were made available to cetaceans in the Athena Project colonial effort, and even those few came about only after stringent lobbying from scientists working with the UN Space Agency. Though many scientists were thrilled by the research opportunities the UNSA provided for modifying humans into aquaforms, a sizable minority saw the efforts as a waste of resources when so many Earth citizens—the cetaceans—were already perfectly adapted to life on a waterworld. Despite their inherent abilities, most decision-makers at the UNSA could not conceive of letting cetaceans lead or even dominate the mission.



Cetaceans everywhere leapt at the chance to join the colonial effort headed for Poseidon. Over 90% of all the genlifted whales on Earth applied for the 500 cetacean posts on the *Cousteau*. Ultimately a joint selection committee made up of CCS and UN Space Agency representatives was established to choose the most qualified applicants.

Applicants were assessed by education, skills, health, age, and sex, as well as a host of other potential qualifiers. Pilots were devastated to discover that they had been “numerically disqualified” and would not be allowed to participate in the project. Population geneticists, both human and cete, were convinced that the global pilot population was still too small to remain viable if divided between two planets. In the end, the *Cousteau* launched carrying an envied and excited crew of 300 bottlenoses and 200 orcas.

The fins and orcas chosen to travel to Poseidon quickly found themselves essential to their communities, especially once the colonists realized they were cut off from Earth. Since cetaceans already lived a lifestyle largely independent of technology, their guidance was invaluable. For the first time, cetaceans found themselves fully appreciated and valued by their human counterparts.

GENLIFTING COMMONS

By 2089 the UN moratorium on genlift had been in effect for 34 years and many bottlenoses were disturbed that their closest surviving kin, the common dolphins, were still living in an unmodified state. While human and cetacean conservatives and eco-poets alike argued against further genlift, most bottlenoses seemed to think it was somehow wrong to leave their brothers in a primal state while they enjoyed the benefits of sentience. The moratorium was still in effect, but the original problems that had led to its imposition had been largely overcome. With the support of the overwhelming majority of its members, the Cetacean Cultural State appealed to the UN to rescind the moratorium. The CCS worked hard to gain support from the international community and eventually won enough votes to lift the ban.

The CCS commissioned Hydrospan to design a genlift therapy for commons following the Gottfried Protocol. The therapy was quickly developed, but tracking down and capturing the world’s remaining common populations proved time consuming and expensive. Hydrospan-backed capture teams were deployed worldwide, and orca herders managed to drive hundreds of commons, one pod at a time, into floating pens where the therapy could be administered. The work was difficult and seldom went as planned, but by late 2090 all but a few errant common pods had been genlifted.

Unlike the first round of genlifting, commons were left in the wild during their transition, with only bottlenose tutors to guide them through the experience. Many attribute the commons’ unbridled nature to this casual and wild awakening. Commons rarely display somber emotions, but most feel a special loyalty to bottlenoses as their benefactors. They also feel a certain pride that they alone owe their sentience not to humans but to fellow cetaceans.

BELUGAS AND THE BLIGHT

Only months after the last of the common pods were genlifted, the outbreak of the Fischer Virus in 2090 plunged the Earth into a global famine and economic depression that would last for 30 years. During the Blight, while nations fell and civilization came apart at the seams, people did what they had for survival. In the high latitudes of North America and Europe the descendants of indigenous arctic peoples, decades removed from the subsistence lifestyle of their ancestors, returned to the harsh but Blight-free north. Many

outsiders joined them, learning their ways, becoming hunters and fishermen and practicing long lost survival skills.

On the cold coast of the Hudson Bay in eastern Canada, several small enclaves struggled to pull an existence from the cold and icy waters. At first the fishermen were surprised to discover a large population of beluga whales still surviving in the bay, protected by the isolation and lack of pollution that had served to keep the bay uniquely productive and healthy. Many rejoiced at the prospect of easy hunting and abundant meat, but many balked at the prospect of eating cetaceans, even if they were still in a primal state. In the almost six decades that had passed since the first dolphins had been genlifted, intelligent cetaceans had become a fixture of life on Earth. Though few people had ever even met a genlifted whale, most still felt hunting and eating even primal cetes was akin to cannibalism.

As this debate raged in the small bayside enclaves, a woman named Ezra Vlotsky made a bold move. Before joining the enclaves, Vlotsky had been a population geneticist working on Hydrospan's now abandoned Grand Banks Fisheries Restoration Project off the coast of eastern Canada. As with many such records of the time, most of the details are lost to the vagaries of the Blight years. Apparently Vlotsky knew that Hydrospan had developed a Gottfried Protocol for belugas, but with the advent of the Blight had never been able to implement it.

It is unclear how Vlotsky managed to acquire the therapy considering the socioeconomic breakdown caused by the Blight, but somehow she was able to acquire both the transform virus and the basic methodology for the protocol. With a small group of accomplices, Vlotsky was able to infect a number of the docile creatures and somehow lead them successfully though the transition to sentience. Once the rest of the villagers discovered Vlotsky's unilateral actions, the debate became moot. In hopes that the bels might be able to help with the fishing and seal hunting, the villagers decided to genlift as many of the white whales as they could.

Vlotsky learned Interspecies herself and taught it to her newly awakened progeny. Over the course of a year, and with help from the other villages and the growing number of genlifted bels, Vlotsky managed to genlift several hundred belugas. By 2108, the entire western Hudson Bay beluga population was sentient. The genlift efforts paid off and most of the

villagers believed that their cooperative relationship with the bels was key to surviving the Blight.

In the end, belugas did not meet other genlifted species until 2114, and so had developed an isolated culture distinct from that of their counterparts, but intertwined with that of their human benefactors. Only on Poseidon has human-cetacean interdependence and friendship reached the level it did on the Hudson Bay coast during the Blight years. Though they learned Interspecies from the villagers, in their isolation belugas were forced to create their own species language, distinct from that of the other cetacean species. Today, bels retain this cultural heritage, and though they are now fluent in both Interspec and basic cetacean language, they pride themselves on still being able to speak their own tongue.

LEFT BEHIND

In the years after the Blight, cetes rarely encountered the kind of overt hostility or resistance the first few generations of modified cetaceans faced, but more subtle forms of prejudice still remained—and continue to this day. Many humans still buy into the fallacy of innate human superiority, and even when they do not mean to put down cetaceans, humans



PILGRIMAGE

Beluga culture still holds a special place in its collective psyche for the cold waters of Canada. Though they value the easier life they live in more temperate climates, they strive to maintain a connection to their ancestral home, which has become so intertwined with their sense of identity. Today, most Earthbound belugas fulfill this desire by making a pilgrimage north to Hudson Bay at least once in their lives, to the people and places that define their origin. Even those on Poseidon feel a cultural drive to return to these home waters, though only a rare few ever make the arduous and expensive trip back to Earth for the pilgrimage.

Most Poseidon bels settle for a more realistic and symbolic version of the journey: a trip to Poseidon's south pole. The GEO's polar research station south of Nulijuk hires seasonal workers to help in its experiments and surveys, and finds cetaceans in general and belugas specifically to be ideal for many tasks. Even though bels once lived in similarly cold waters their whole lives, modern belugas are less well suited to it, having puprosfully lost much of their blubber to accomodate their warmer surroundings. To work a season at the poles is therefore a significant accomplishment, and one that takes long preparation and dedication. Many belugas never make the journey and most make the trip only once, but a hardy few return year after year.

often make specist comments that reveal either ignorance or arrogance. Most humans have little contact with cetaceans and get most of their ideas about them from holovids and advertisements. Cetaceans, when they appear in the media at all, are usually portrayed in the same stereotypical fashion as they were 150 years ago—as amoral, heartless killers, inane sidekicks, or mind-reading mystics. Media portrayals also imply that whales either hate all humans or wish they could be one.

As a result, cetaceans have to put up with constant slights and insults from humans who do not even realize they have behaved inappropriately. Humans commonly refer to all cetaceans as dolphins or “fins,” when only commons and bottlenoses are generally called dolphins and only bottlenoses are known as fins. Humans typically speak only to each other in groups and ignore remotes, acting as if their cetacean operators were not even present. When they do talk to remotes, they usually speak simplistically or curtly into them, as if telepresence made cetaceans either slow-witted or unfeeling. Too often humans forget to ask cetacean members of a group for their input, and if a cete offers suggestions anyway, humans often respond with mild condescension, as if the whale were a precocious child in their midst. Humans often use non-inclusive language, saying “people” or “workmen,” for instance, instead of terms that would show they are aware of cetacean participants as well.

Often government and Incorporate forms are obviously designed for humans, asking for anthropocentric information such as street addresses and marital status instead of using broader terms that would apply to cetaceans as well. Cetaceans in non-traditional industries often have problems with accommodations, and are regularly denied appropriate workspace or else given makeshift equipment. They often find themselves left out of meetings or invited to workplace social events in which they cannot really participate, such as cocktail parties or dinners out.

Since Recontact, native cetaceans on Poseidon have begun to encounter the prejudice and insults familiar to their Earthbound cousins. In some ways, native cetaceans are even more vulnerable to these slights because they are so much more naive and ungarded around humans.

Of course, the prejudice and ignorance work both ways. Cetaceans have their own sets of stereotypes about humans, especially in communities with little human contact. They see people as uptight, materialistic, destructive, over-competitive, self-involved, arrogant, and ridiculously fragile. However, it would be impossible for cetaceans to be as ignorant about humans as humans are about them, since they are constantly exposed to so many aspects of human culture. Cetaceans, as the minority, have long been forced to accept and accommodate human ways. Thus they put up with human rudeness, follow

human laws and ethics, and accept that their views will rarely be solicited if they do not speak up.

DEMOGRAPHICS

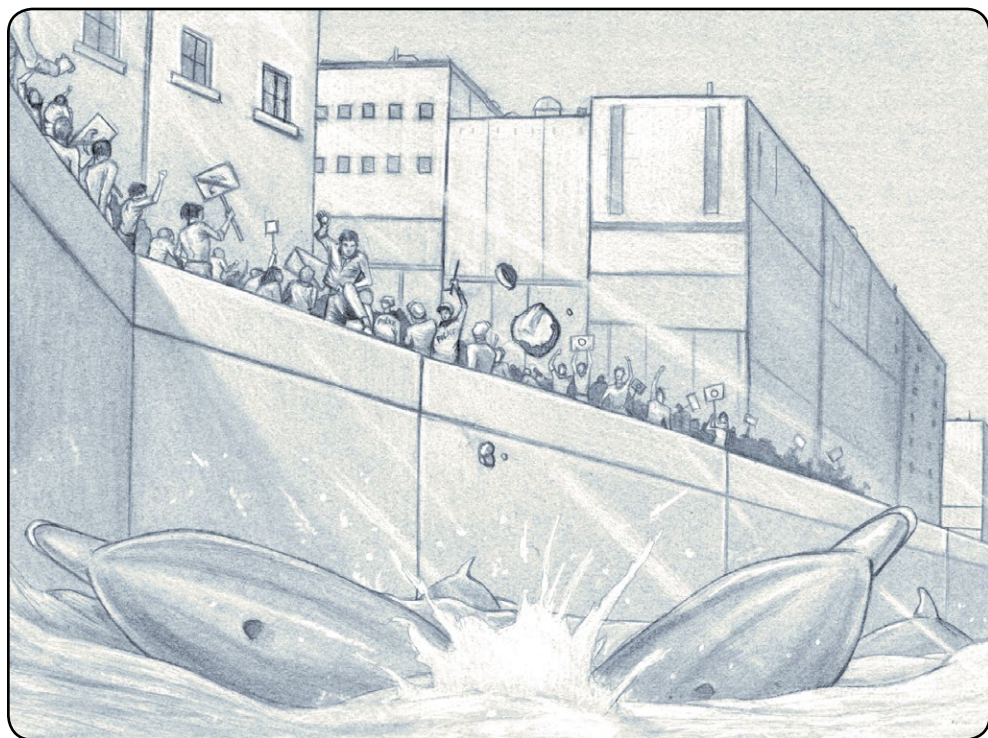
Most of the species of cetaceans that survived to be genlifted were those with large populations and a worldwide distribution, which gave them a distinct survival advantage over those species that went extinct. Many records were lost during the Blight, but Gottfried and a few other scientists are said to have located 389 bottlenoses and 313 orcas for genlift, both in captivity and in the wild. Pilot whales were less numerous, both in captivity and in the wild, and even with teams working worldwide only 184 individuals were genlifted.

Commons, as their name implies, were the most populous and widespread cetacean species in the mid-twenty-first century. The only reason bottlenoses and orcas were genlifted first was because they were the most studied and the most numerous in captivity. Gottfried chose to genlift the pilots before the commons because the pilots' smaller population was more vulnerable. When the Cetacean Cultural State managed to get the genlift moratorium

lifted and began tracking commons, they were able to find several isolated places where populations were still relatively high, such as the Gulf of California and around Shark Bay, Australia. Between wild and captive animals, the genlift effort was able to treat 887 commons.

Belugas survived to genlift despite being neither widespread nor numerous. Their range was very limited, and more than once they faced near-extinction due to poaching, pollution, and predation. The fact that they survived to genlift at all is remarkable. Over the course of 2108, 60 years after most of the first whales had been modified, Vlotsky and the other villagers genlifted 248 belugas. Due to this delayed genlift, the beluga population remains much smaller than any other modern cetacean species both on Earth and Poseidon.

The newly genlifted whales were as anxious as Gottfried to ensure their various species survived, and reproduction quickly became a celebrated part of cetacean culture and a deeply ingrained tenet of the increasingly popular Church of the Whalesong. Population dynamics specialists worked closely with the various human and cetacean groups, especially



the pilots, to ensure healthy genetic diversity. This deliberate and emotionless practice would have been impossible to implement among humans, but considering their innate promiscuity and the genetic alternatives, cetaceans had little problem complying with the scientific breeding program.

Inevitably, population growth rates slowed during the Blight years. Though the Blight did not directly affect natural whale food sources, cetaceans did face extreme and sometimes even violent competition with human fisherman. However, their total population was so small at the time—only about 11,000—and they were such adaptable hunters that they were still better able to provide for themselves than the typical human. Whereas more than half the world human population died as a direct result of the Blight, cetaceans suffered only a 20% reduction in their average birth rates.

Though immigration rates to Poseidon are increasing, today a total of about 73,000 cetaceans live on Earth. Bottlenoses number a little more than 30,000 and are by far the most populous species. Orcas are the next most abundant with almost 21,200 individuals on Earth. Though commons were genlifted much later, their larger genlift numbers gave them a headstart on their current Earthbound population of 16,800. The pilot population has grown more slowly and now numbers about 11,500. Belugas are the smallest minority, with only about 2,600 living on Earth today.

Native populations of bottlenoses and orcas on Poseidon were of course unaffected by the Blight. The original 300 fins have now grown to almost 8,600, and the first 200 orcas have produced 5,300 descendants. Newcomers of these and other cete species only began arriving in significant numbers over the past 12 years and in that time their populations have grown quickly. Over 6,000 newcomer bottlenoses live on Poseidon and 4,800 orcas have made the great migration. Orcas are in high demand to fill positions in Incorporate security and the military, but they are expensive to transport, so the total number of bottlenose immigrants has been much higher.

Both orcas and fins have also been helped by family and friends already living on Poseidon who have sent money to subsidize their transport. Pilots, commons, and bels, the real newcomers to Poseidon, do not have this kind of help, though the CCS, Hydrosplan, and various cetacean charities do provide some grants and subsidies. These three species only first arrived on the planet 8 years ago, and today there are about 2,750 pilots, 2,200 commons, and 760 bels on the colony world.

A significant milestone was passed last year when the approximately 14,000 native orcas and bottlenoses on Poseidon were finally outnumbered by newcomer totals for all species. Additionally, demographers estimate that within the next 20 years the number of cetaceans on Poseidon will surpass the total population on Earth.

A CETACEAN CULTURAL PRIMER

A Newcomer's Guide

*Brought to you by the citizens of New Fremantle.
Published by the Hydrosplan Office of Cetacean-Human Relations.*

Many newcomers to Poseidon have never met a cetacean in person before, but on Poseidon, and especially in New Fremantle, you will be surrounded by them. You may work with one or buy your lunch from one or hire one as a guide. In fact, you have probably met a few already. Because cetacean culture is different in so many ways, newcomers often stumble into misunderstandings or inadvertently offend their new cetacean acquaintances. Avoiding these problems couldn't be simpler, however, and this short primer will get you started on everything you need to know about your new friends.

DOS AND DON'TS

First and foremost, never buy into the cetacean stereotypes you may have picked up from holovids and advertisements. Cetaceans aren't psychic, dirty, bloodthirsty, or anti-human. They have their different ways, but most of the generalizations you've heard are untrue. Also, be aware that the whales you meet may be looking at you through their own set of stereotypes. Cetaceans tend to think of humans as arrogant, uptight, materialistic, fragile, and over-competitive. One of the purposes of this information is to help both humans and cetaceans overcome these preconceived ideas.

Most of the problems that arise between humans and cetaceans are based on simple misunderstandings, many of which can be avoided by following

a few basic rules. To begin with, watch your language. On Earth, you've probably heard the slang terms "fish" and "fins" used to refer to all cetaceans indiscriminately. If you use those here, you are sure to cause offense. Cetaceans should never be called "fish" under any polite circumstances, and "fin" is used only to refer to the bottlenoses. You must also never refer to orcas as "killer whales." Orcas can be short tempered and aggressive and find the name insulting. All species of cetaceans are whales, and it is appropriate to refer to them as such. "Cete" (pronounced seat) is simply short for cetacean and is also a commonly used and acceptable term.

Next, don't be alarmed by any disconcerting behavior you may observe. For instance, you may have already been greeted with "welcome water," the dubiously charming cetacean custom of splashing newcomer humans with seawater. They claim the salty spray helps clear up the spots, but at any rate, take it as a positive sign of acceptance and just one of the many new experiences you will have here on Poseidon.

The cetacean sense of humor takes some humans by surprise. Commons love to play silly practical jokes, so if your sonar readings sound like music, or you wake up to find your boat moored in a different slip, take the joke in good spirit and consider it for what it is—an invitation to retaliate in kind. These things may not seem funny to you at first, but harm is rarely done, and it's just one more part of adapting to cetacean ways. If you really want to be a sport and impress your new cete friends, hit them with a few puns—the more abstract and contrived the better. Though you won't get any laughs from your human friends, cetaceans find humorous wordplay irresistible. So if you say, "Well, this is a fluke!" at a chance meeting with a cete acquaintance, you can expect a genuinely appreciative response.

Get used to seeing innumerable remotes painted in all kinds of wild designs flying overhead here on Poseidon. Most of these belong to cetaceans just going about their daily business. Dealing with whales through their remotes may feel awkward at first, but be careful not to ignore these machines or talk about their cete operators as if they weren't present. Treat the remotes as if their owners were with you in person. Be sure to address them directly and include them in conversations as equals. A word of warning, however: Do not touch a remote without an invitation! Cetaceans are quite protective of their telep-

resence equipment and consider handling it without permission an invasion of their personal space. In fact, if you do something to purposely damage a remote or CICADA, its owner might react as violently as if you had made an attack against his body.

One way to endear yourself to a cetacean is to ask him about the designs he used to decorate his remote. Most cetaceans paint their equipment in ways that are meaningful to them, so they'll appreciate your interest. You will likely find the color scheme loud and the designs awkward or tacky, but you'll learn a lot about cetacean tastes and personalities by discussing their decorative arts.

Don't be offended if cetacean colleagues are unenthusiastic when you suggest going out to eat. Most whales prefer to hunt for themselves when they can and consider restaurant food over-processed and unappealing. Though they like to socialize while hunting, most whales prefer not to linger over meals. Instead of a meal out, suggest meeting at a cetacean-human club, where you might get the chance to see whales perform echo/motion. You can decide for yourself whether it's best categorized as music, dance, or performance art.

Don't get upset when you discover a cetacean colleague has borrowed a piece of equipment without asking. He wasn't being careless or inconsiderate; cetaceans just have a different sense of ownership. Most own little themselves and consider the few possessions they do have almost communal property. If this behavior bothers you, just explain your feelings and your colleague will most likely be happy to treat your possessions with more human-like deference.

Communicating with Cetes

Enroll in a basic Interspecies Language class as soon as you can. As you probably know, cetaceans can understand human language; they just can't produce it. In order to communicate effectively with humans, cetes must either use translators or Interspec, a sophisticated language based on gesture and whale vocalizations. Though many cetaceans use translators, many native cete populations do not own the necessary hardware. The language can be difficult at first, but you'll soon catch on. You will quickly find that cetes will show you increased respect and deference if it is apparent you are taking the trouble to learn the language.

The Hydrospace Office of Cetacean-Human Affairs offers classes, or you could sign up for a tele-course



through the Haven Institute of Science and Technology. If nothing else, there is a basic primer attached to this file. We recommend you start studying it right away.

Uniquely Cetacean

Cetaceans have any number of customs that are hard for humans to understand. What follows are a few of the most frequently encountered issues, along with brief explanations that should help you better understand their cultural significance.

You are undoubtedly aware of the reputation cetes have for being cooperative and trusting, often to the point of naivete. This is essentially true. What most humans don't realize is that cetaceans operate under a different ethical code. They expect that, just as they help others, others will help them in return. Cetes place a high social value on this exchange of service, and when their ethic meets the human custom of self-interest, the result is often confusion, disappointment, or even conflict.

Cetaceans are extremely cooperative in both their workplace and play activities. Inherited from their pack-hunter past, this nature has served them well since before genlift and continues to be a distinct

advantage today. Their cooperative ethic is the reason why Hydrosplan's unique economy is making the Incorporate so wealthy, and why cete combat units are such lethal fighting forces. Whales are cooperative even to the point of being non-competitive, which is why, despite their obvious advantages on the hydrosbot court, the cetacean division of the Global Hydrosbot League is largely ignored by even the most rabid fans.

Cetes are impulsive at times, especially once their minds are made up. Many of their decisions are based on flashes of insight, and this intuitive nature can be frustrating to more logically minded humans. This impulsiveness is all the more frustrating when it turns out to have been justified by subsequent information. Humans are sometimes startled by the ruthless ferocity of whales and often mistakenly assume it means whales are inherently violent. This perception is reinforced by the obvious joy cetes find in hunting and killing prey with nothing but their own teeth. The truth is that whales have genuinely non-violent natures and hunt only for food, taking pleasure not in the killing but in the manifestation of their survival ethic. Whales are only dangerous when they perceive a threat to themselves or their podmates or friends.

You've probably noticed that cetaceans use some rather odd naming conventions. Most individuals have two names: usually a one-word social name like "Rounder" or "Chaser," and a personal name in the cetacean language that relates to their aspirations and goals. Most humans never learn a cetacean's personal name. Usually nobody but a whale's podmates ever know it. If a cetacean ever tells you his personal name, you should consider yourself deeply honored. There is a duty inherent in the confidence, however, as the cete is offering you an oath of trust and friendship, and may very well be asking you to join his pod.

Whales choose their own names and do not keep the same one their whole lives. Periodically, when they change jobs or goals, cetes will select new names. After you've been here a while, you may be confused to discover that the cetacean you knew as "Tracer" last week is now called "Solver." Just do your best to keep up—who knows, maybe someday you'll decide to change your name, too.

You should know that cetaceans don't form relationships the same way humans do. Most humans maintain a circle of friends but are closest to their

spouses, children, and family members. Cetaceans, depending upon species, sex, and circumstances, do not necessarily maintain family ties. Many of them have never met their fathers and have had little contact with their mothers since calfhood. They live in pods, often with unrelated cetaceans of a similar age. The members of his pod are a cetacean's true family, and podmates are fiercely loyal to each other. Befriend a cete, and you are friends with his whole pod. Alienate a cete, and his entire pod will shun you. Harm a cete and his pod will likely kill you.

Even in the open-minded social climate of 2199, cetacean sexuality may at times still shock you. Cetaceans do not view incest as humans do, and will readily engage in intercourse with mothers, aunts, brothers, and sisters. In addition, whales frequently bond with their podmates and other whales through sexual play. They use it more as a token of friendship than as a sign of intimacy. Be aware that at some point you will likely be the target of a cetacean's sexual attention. Just decline politely, and you'll find that there are never any hard feelings.

If you are ever fortunate enough to live or work closely with cetaceans, especially in a remote location with few alternative social outlets, you may actually find yourself invited to join a pod. Many humans do not understand the significance of this practice or the rituals surrounding it, and as a consequence sometimes deeply offend their colleagues. If a group of cetaceans invites you to spend a lot of time with the pod outside of work, exchanges gifts of food or technology with you, or shares their personal names, you can be certain you are being invited into the pod. Many humans who have joined pods enjoy rich and enduring relationships with their podmates, but if you do not wish to join, be certain you respectfully decline the offer in no uncertain terms at your first opportunity.

Pod membership involves certain obligations and unquestioned loyalty to the other group members at a level many humans find hard to achieve. In accepting membership, you are expected to prioritize your life to put the group's interests above your own in every situation. Members are expected to sacrifice anything for the good of the pod including money,

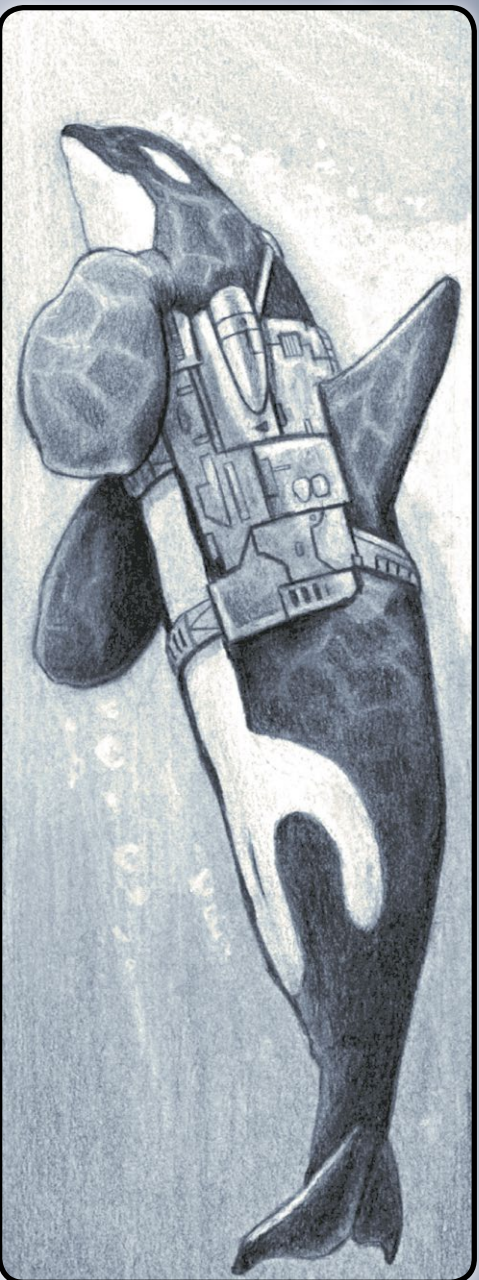
resources, outside relationships, and even their lives. You should also keep in mind that joining a pod is a long-term commitment, not one that lasts only for a season or the duration of a particular assignment. Podmates even make career and relocation decisions as a group, so be sure you consider what you are getting into before joining.

You have undoubtedly heard of the Church of Whalesong Theogony, but most humans know little of its customs and beliefs. There is no divine aspect to anything within the Church. Instead, the central tenet of the Whalesong is a broad-reaching survival ethic intertwined with a spiritual celebration of cetacean culture. You might think of survival as self-preservation, but cetaceans give the idea broader meaning. They genuinely put the survival of their species and their pod ahead of their own interests, and cetaceans will commonly risk their own lives to protect a pod-member or a young calf.

The rituals of the Church are not well understood by humans. They usually involve the retelling of parables, stories, and lessons that describe the ecological history of the world and validate the evolution and history of all cetaceans. These stories are collectively called the Whalesong, and they are performed as sound-plays at churches planet wide. The churches have leaders and choirs of performers, but the leaders do not preach. At church meetings anyone may come forward and address the congregation. Many churches do not welcome humans, but others are more open and encourage the curious to attend. If you are interested, ask a cetacean friend about the Whalesong. Some individuals are reluctant to talk about the church, but others seem eager to share what they can.

You won't learn everything you need to know about cetaceans just by reading this primer. To really get to know them, you have to go out there and make some friends. Even if you never form a close relationship with a cetacean, you'll find that exposure to their opinions, perspectives, and culture will enrich your own understanding of the world. Who knows, maybe your best friend is a whale you have yet to meet.

CHAPTER 2: BIOLOGY



In order to understand modern or genlifted cetaceans, one must first understand the primal ways of their lives before genlift. Anthropologists know that studying primitive human behavior helps explain modern human ways, and this is even more true for cetaceans, having undergone such an abrupt transi-

tion into sentience. For cetes, millions of years of evolution literally happened overnight, whereas humans were able to adapt gradually as they evolved. As a result, modern cetaceans are far more instinctual in their behavior, and their culture is much closer to its primal roots.

TYPES OF CETACEANS

As little as two centuries ago, eighty species of cetaceans occupied the oceans of the Earth. Overfishing, poaching, increasing levels of pollution, and the destruction of vital habitats eventually led to the disappearance of all but a few of these species. Once genlifted, cetaceans were devastated by the discovery that for centuries humans had systematically destroyed their kind. They were not bothered that humans had hunted cetaceans for food or resources—after all, this is the most primal ethic of all—but they were horrified that humans had preyed on cetaceans only for blubber or whalebone and left the rest to rot. Even worse was the discovery that fishermen once killed them indiscriminately as they harvested fish, or in hopes of eliminating competition for the same prey.

At one time there were two major types of cetaceans: baleen whales, the filter-feeding giants of the ocean, and the smaller toothed whales, dolphins and porpoises. Today all the baleens, once called the great whales, are extinct as are most of the toothed whales. The best known and most populous remaining species are the bottlenose dolphins and orcas, or killer whales. These were once the most common captive species and the first to be genlifted. Smaller numbers of several other species also survive in a genlifted state: belugas, pilot whales, and common dolphins. Each species has a distinct biology, personality, and subculture, each of which in turn is uniquely affected by their upbringing on either Earth or Poseidon.

BASIC ANATOMY

All modern cetaceans have similar body types and anatomies with slight variations by species. Though they are mammals, meaning they possess a four-chambered heart, vestigial hair, three tiny bones inside the middle ear, mammary glands, and gestate within a placenta, they have evolved a unique array of adaptations for life in the water. They lack the protruding noses, genitals, mammary glands, and ears typical of land mammals, making for a more streamlined form. Their flattened forelimbs, or pectoral fins, each have a highly mobile joint and are used for steering. The prominent dorsal fin does not actually contain bone but rigid, fibrous tissue used to control body orientation and provide stability while swimming. The tail flukes are stiffened by similar fibrous bundles interwoven with tendons. The hind limbs have been reduced to vestiges while the spine has developed long spurs to help anchor the powerful tail muscles.

Cetes possess torpedo-like bodies that are extremely efficient when moving through water. A thick blubber layer under the skin fills in ridges and depressions to

give their bodies streamlined contours. This layer also holds in heat and stores energy for fasting periods. The circulatory system is elaborate and responsive in order to maintain body heat in cold waters and cool the body during sudden bursts of activity. The nostrils have migrated to the top of the head to form a blowhole used to breathe air when they surface. The eyes are on the sides of the head near the corners of the mouth, and the ears are only small openings just behind them.

Cetacean brains have evolved in distinct ways to accommodate life in the water. The two hemispheres are able to function more independently than in humans. In contrast to land mammals, each side of a whale's brain has its own blood supply, and there is more duplication between the two hemispheres, enabling them to function with one half while the other half sleeps. Cetaceans possess large brains relative to their body size, in part to accommodate the duplication between the hemispheres. The extra mass is also needed for the complex analysis and storage associated with echolocation.

One theory claims cetacean brains are larger because they do not dream. The theory asserts that a possible function of dreaming is to discard old memories and images in order to make way for new ones, a daily process of unlearning and forgetting the insignificant or trivial. Some cetologists suggest that because cetes do not sleep in the same way as other animals, the extra brain mass is necessary to hold memories and images that linger in their minds undiscarded. If this is true, it may explain why cetaceans have such excellent short-term memories.

As well-adapted as cetaceans are to life in the water, evolution has also left them uniquely vulnerable out of the water. For instance, whales have to be careful not to become stranded. Sometimes cetes intentionally beach themselves either to escape predators or catch prey, but they are not always able to work their way back into the water. This situation is especially dangerous because their ribcages are only adequate to protect the internal organs underwater where their weight is supported by the ocean. On land, the same skeleton is not sufficiently durable to protect cetaceans against the crushing weight of their own stranded bodies.

Most marine mammals do not display external sexual characteristics, which often makes it difficult for humans to distinguish their gender. Of the sur-

living genlifted species, orcas and pilot whales possess the most notable dimorphism between males and females. Male orcas and pilots are considerably larger than females, and female orcas have smaller and less conspicuous dorsal fins than males. In the other species, males range from only slightly larger to slightly smaller than their female counterparts. Additionally, in terms of body shape and color pattern, both genders of a species are the same.

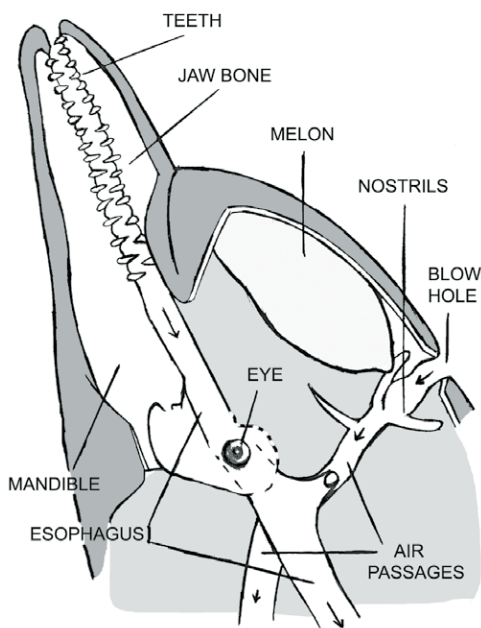
Both males and females of all species contain their sexual organs within genital slits. The penis, except when erect, is hidden in a closed slit similar to the female's vulva. The only difference is that a male's genital slit is slightly more anterior than a female's, which is almost continuous with the anus. The female's mammary slits are difficult to discern but are located on each side of the vulva. The nipples retract inside the fold when young are not nursing. Because the mammary glands themselves are located under a thick layer of blubber there is usually no sign of any breast-like protrusions, even in lactating individuals.

Most dolphins, especially bottlenoses and belugas, seem to wear a permanent smile, a feature that has long endeared them to humans. The truth of the matter is that cetacean heads, like the rest of their bodies, carry significant amounts of insulating blubber beneath the skin. This fatty layer prevents the major muscles of the face from being visible on the skin's surface. Thus, dolphins are capable of only a limited range of facial expressions.

BREATHING

Cetes breathe less often than land mammals, a helpful adaptation for water dwellers that must surface for every breath. Though they possess proportionally smaller lungs than their land bound cousins, they breathe deeper and more efficiently. The cetacean pulmonary system extracts up to 80% of the oxygen in each breath, which is more than twice as efficient as the 30% typically exchanged by land mammals.

Whales' circulatory systems help them achieve this high level of oxygen extraction through several mechanisms. First, cetaceans circulate twice as much blood proportionally through their bodies as humans. Also, that blood contains higher levels of both red blood cells and hemoglobin, which are responsible for transporting oxygen. Finally, cetaceans possess significantly higher levels of the oxygen-absorbing molecule myoglobin in their muscles



than land mammals, further increasing their capacity to store oxygen.

SENSES

As mammals, cetaceans must be able to use their senses both above the surface, where they breathe, and below the surface, where they swim and hunt. However, most senses function quite differently in water than they do in air.

Light travels more slowly in water than in air and refracts or bends, and eyes designed to see in air cannot focus properly underwater. That is why humans must wear masks or goggles to see clearly underwater. Cetaceans have developed strong muscles around their eyes that actually change the shape of the lenses, allowing their eyes to focus both in and out of water. In addition, they have very large pupils and can see well in dim conditions. However, the sense of sight is not as useful to cetaceans as it is for land-dwelling animals as visibility underwater is often limited by depth, suspended particles, and plankton blooms.

Whale hearing is well developed and adapted to the water. Instead of relying on an ear canal, vital to hearing in the air, they conduct sound through the small pan-bone in their lower jaw where a fatty channel transmits sound to the ear bones. Cetaceans still retain an ear canal that can fill with air when they are at the surface, allowing them to also hear quite well in the open air.

A cetacean's sense of touch is more elaborate and versatile than a human's. The cetacean's skin contains multiple nerve endings, especially in certain regions like the lower jaw, the mouth, and the penis, providing something similar to the human sense of touch. In addition, their skin is sensitive to slight changes in water pressure and density. This sense allows cetaceans to tell when they are close enough to the surface to breathe, to judge how fast they are swimming, and to identify and respond to areas of turbulence building up on the body when swimming at high speeds.

All modern cetaceans lack a sense of smell acute enough to detect chemicals suspended in the air. Though they do possess some ability to smell chemicals in the water, this sense is poorly developed and of only limited utility.

The cetacean sense of taste is confined to a general awareness of the sweet, sour, bitter, and salty flavors of the foods they eat. In other words, they

know if the fish they are about to eat has gone bad, but they are unable to savor the taste of their food. This limited ability partially explains why cetaceans do not care much for restaurants or prepared food. If in close proximity to the source, cetes can also detect dissolved substances such as sexual pheromones, trails of migrating herds, or waste products like urine and feces.

ECHOLOCATION

In order to compete with highly adapted predators and prey alike, the toothed whales evolved a sophisticated sensory system called echolocation that allows them to essentially see with sound. A cetacean echolocates by emitting short bursts of high- or low-frequency sonar pulses or clicks that bounce off objects in the water. The cetacean then receives the bounced-back sound, or echo, and analyzes it to create a sound picture of its surroundings. Cetaceans can sense the size, shape, speed, direction, and distance of any object within range. In addition, they can determine something of the object's texture and density and sometimes even its internal structure by using echoes.

Even though echolocation relies on auditory signals, this sense is most closely akin to a land creature's ability to see, as it relays detailed information similar to, but even more complete than, the information humans gather visually. Land animals see by processing reflected light, which gives them information about an object's color patterns. Cetaceans can essentially see by analyzing reflected sounds, which gives them information about an object's movement and composition. In addition, this sense is acute over much greater ranges than human vision and the information can be gathered very quickly, as sound travels five times faster through water than through air.

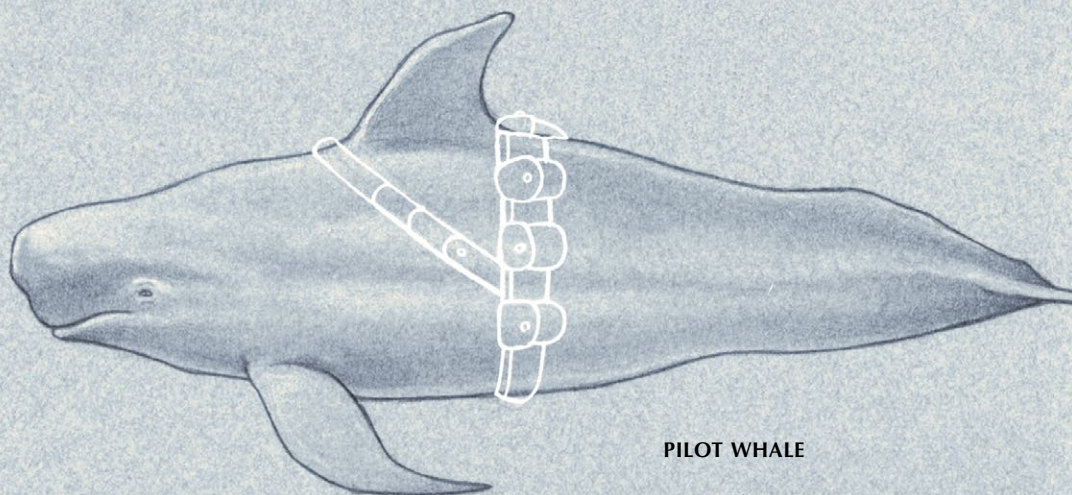
While swimming, an echolocating cetacean will send out low frequency sonar waves in order to get a general picture of his surroundings, including depth, topography, and the presence of other larger animals. For the most efficient use of sonar, a cetacean will wait for each pulse to echo back before sending out the next one. This type of low frequency sonar provides information over the broadest possible area. Once an interesting echo is noted, the cetacean typically sends out a broad frequency band of clicks in order to get more detailed information about distance and direction. Once the target is pinpointed,



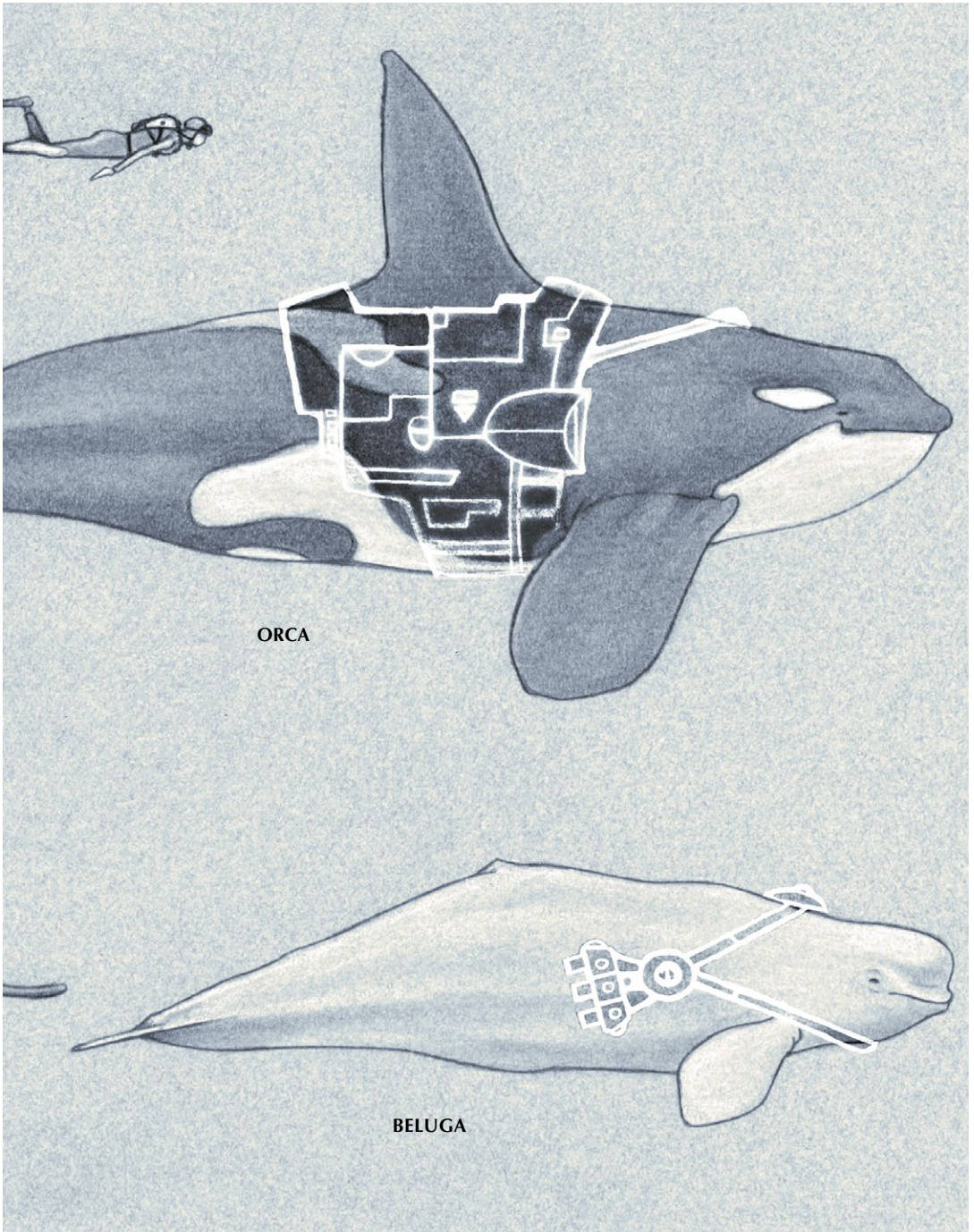
BOTTLENOSE DOLPHIN



COMMON DOLPHIN



PILOT WHALE



the cetacean can focus his signals on the target, intensifying the power of the higher frequencies and creating a more detailed sound picture of the object. By moving his head from side to side, the cetacean can better define the target's size and movements.

As the cete approaches a target, it can use much higher frequency clicks that give the most detailed information about an object but can only be used at close range. At short distances the clicks come very close together, resulting in a high pitched creaking audible to the human ear. If necessary, a cetacean can use high frequencies at very close ranges to obtain fine details about an object's texture or internal structure. A cetacean may even rest his lower jaw on an object or take it into his mouth when using echoes in this way.

The skulls of toothed whales have evolved in elaborate ways to allow for the use of sonar. All toothed whales contain large deposits of fat in their heads, both in the forehead, or melon, and in the lower jaw, extending up to the middle ear. Once the sound is produced internally, the fatty tissue in the melon serves to focus and direct the vibrations towards a given target. The returning echoes are received by the thin bones and fatty channel of the lower jaw and from there are translated into sensory impulses.

Additional adaptations have arisen as a result of echolocation. Toothed whales have very large brains for their overall size, which are necessary to process and store the immense amounts of information generated by their unique acoustic sensory system. Also, echolocating cetaceans have relatively few teeth compared to their early ancestors, as the use of sonar gives them such an advantage in hunting that numerous teeth are less vital to capture food. In addition, some bones are shifted or reduced to help insulate each ear from the other, improving cetes' ability to sense the direction of echoes. Similarly, the sound-producing front of a cetacean's skull is insulated from the sound-receiving back of the skull to avoid interference when processing echoes.

Echolocation does have its limitations. Because the sonar pulses are produced by the melon, they can only be directed forward. Also, if a cetacean finds himself in waters disturbed by noise pollution from boats, machinery, or a lot of other calling cetaceans, his ability to echolocate may be inhibited or even eliminated. A cetacean character's echolocation roll is subject to penalties in areas with high levels of noise pollution. For instance, in Haven Harbor on a

typical day, the penalty might be -1 or -2. Bowriding, it might be -1, and when chasing a powerski it could be -3. Near a mining site, the penalty might be -5.

Cetacean players determine echolocation results by making a Cognition roll. All species of cetacean treat their Cognition as 2 higher for purposes of echolocation tasks. Cetaceans can clearly detect large objects underwater up to 800 meters away and can perceive small objects and greater detail at distances up to 100 meters. The closer they are to an object, the more detail they can perceive.

Scanning

Not only can echolocation be used to detect objects and animals moving through the water, within limits it can be used to scan the interiors of certain spaces. A cetacean's sonar pulses can only penetrate thin-walled or porous materials and work best in water-filled spaces. Therefore, whales can readily scan submerged objects, such as sunken boats or crates, and can locate objects buried in mud or sand. They can also detect hardware, such as cybernetics, within a target's body as well as weapons and other hard objects hidden within a human's clothes. Cetaceans have a harder time gaining useful information when echolocating through floating boat hulls or other air-filled spaces.

Echolocation can also be used medically. A cetacean can direct his sonar pulses at another's body, cete or human, and scan his internal structure. The echoes he receives give him information similar to a primitive ultrasound probe, allowing him to discern major injuries or foreign objects within the target's body. Primitive cetaceans once used this skill to identify pregnant females, and modern cetaceans are able to scan with even greater understanding. The ability helps make cetaceans excellent field medics, able to check a patient's internal organs and bones at a sonic glance. Their scans are not as detailed or thorough as a probe's, but cetaceans are far better at interpreting the results, and they can make a scan at any time, anywhere—even in the middle of a firefight.

Some cetaceans and humans believe that such scanning can also give whales a line on the emotional state of a target. Apparently the heart and breathing rates, muscle tone, and digestive activities are all observable via echolocation and collectively indicate if a target is lying, afraid, preparing to fight, or is otherwise emotionally charged. With cetacean targets this might be possible, but many

scientists doubt that a cete observer can tell whether a human's increased heart rate is due to fear or the fact he is treading water. Still, many think this scanning may at times contribute to the cetacean ability to formulate uncanny insights and receive sudden flashes of intuition. Because cetaceans can easily tell when scans are targeting their bodies, there is a social etiquette that dictates when and by whom these intimate checks can be made. Under casual circumstances the rules require an echolocating whale to dampen his sonar while another cete passes by to keep from deafening him with pulses and to avoid inappropriate scanning. When cetes are angry or in blatant opposition, this etiquette apparently does not apply. Human targets are much less aware of sonar pulses, but even they can feel a feathery sort of vibration if the signal is very strong. Cetaceans attempting to scan humans covertly must use caution or create distractions.

MAGNETIC SENSE

Cetaceans possess another highly sophisticated sense that humans do not. Like many other creatures such as bees, butterflies, fish, birds, and bats, they are able to interpret directional information from a planet's magnetic fields. Small crystals of iron oxide or magnetite are located in the external brain tissue of cetaceans. Like mini-compass needles, the crystals enable a cete to work out the relative direction he is traveling.

Cetaceans do not read the directional information of a planet's overall magnetic field like humans do when they use a compass. Instead, they sense small relative differences in the local magnetic field. Though the current planetary magnetic field orientation on both Earth and Poseidon is uniform, the underlying geology in any given area often creates small distortions in the local region analogous to topographic hills and valleys. The tectonic movement of the continents has created parallel bands of these magnetic hills and valleys across the oceans' floors, which cetaceans can use as a kind of natural longitude.

There are numerous larger magnetic anomalies throughout Poseidon's oceans in places with particularly dense deposits of iron or with high tectonic activity, as well as areas along the continental shelf or around submerged mountains. These anomalies can serve as fixed and reliable landmarks once a whale becomes familiar with their locations. In the

trackless marine environment, this magnetic sense becomes an invaluable navigation tool.

Not only does their magnetic sense give cetes navigational information, it also provides daily time cues. Both Earth's and Poseidon's overall magnetic fields fluctuate in a fairly regular manner every day, providing time cues like magnetic versions of dawn and dusk. These regular fluctuations can be obscured by solar activity, especially at night. As a result, the evening signal is often unreliable, but the morning cue is usually consistent enough to reset a cetacean's travel clock. Whales can use this information to calculate how long they have been swimming; by factoring in the direction and rate of travel, they can usually do a fairly accurate job of tracking their position.

This sense is not always entirely reliable. For one thing, the daily fluctuations can be difficult to interpret due to changes in seasonal, sunspot, and lunar cycles. Also, at times the parallel courses of magnetic hills and valleys continue uninterrupted onto land, which can be confusing. In their primal past, these anomalies were responsible for the occasional "live strandings" of dolphins and whales who tried to follow the parallel magnetic bands onto the beach. Today, in their genlifted state, cetaceans are more wary about relying exclusively on this sense.

SWIMMING

Cetaceans are predators and must be able to swim quickly enough to catch their prey. In fact, cetes can swim at speeds that defy the biomechanics of their apparent anatomy and physiology. They are able to reach such high speeds by virtue of adaptations that allow their bodies to develop and maintain laminar flow. Laminar flow is the smooth, non-turbulent movement of a fluid over the surface of an object. Most objects moving through a fluid create turbulence along their surfaces and in their wakes, and this turbulence greatly increases the effects of drag. The intent of streamlining, both in evolution and engineering, is to reduce drag by encouraging laminar flow. Cetacean bodies are streamlined and their skin and blubber, while firm, are not rigid. When changing speed or direction, the skin folds and ripples at points on the body where turbulence begins to form, restoring smooth laminar flow. Cetaceans also secrete a fine film of mucus from glands near their eyes that streams along the sides of their bodies, further reducing resistance.

Cetaceans' most effective adaptations to maintain laminar flow are in their swimming mechanics. A cetacean's flukes move vertically when propelling his body through the water. The power stroke occurs as the tail moves upward, forcing water from the top of the flukes to the bottom and forming a vortex of low pressure under the tail. The vortex draws water backward from the surface of the head and body to prevent the formation of turbulence along the skin. The body moves forward and down as the flukes continue to push up, and the vortex is washed away from the tail through the end of the stroke, along with its drag-inducing turbulence. As the tail relaxes downward in the recovery stroke the flukes flex, spilling water to the sides, providing no thrust but also creating no turbulence. The buoyancy of the head and thorax, increased by their high oil and blubber content, cause the head to rise while the downstroke continues. Thus the animal moves forward and down during the power stroke and glides upward during the recovery stroke without ever generating significant drag.

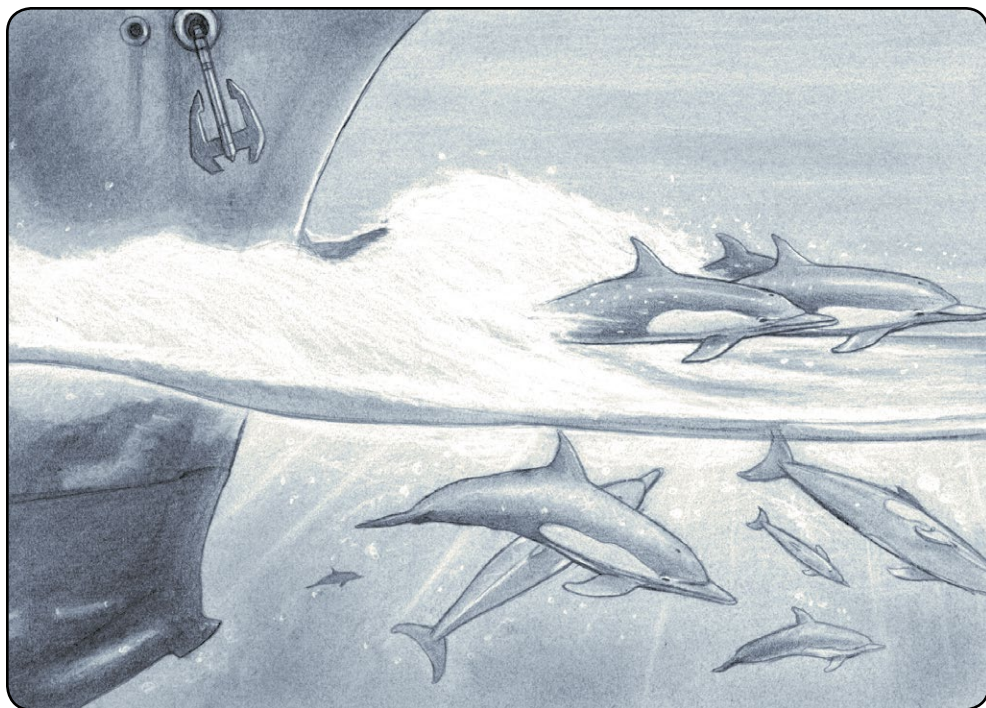
To further increase their speed and save energy, cetaceans often leap clear of the water while traveling or chasing prey. While swimming near the sur-

face, they have to overcome the constant turbulence and friction of water slowing them down. The brief rest and lack of drag while flying through the air more than compensates for the extra energy required to leap clear of the water.

Bowriding

Bowriding also allows cetaceans to travel long distances with less effort and more fun. When a boat travels forward, water piles up in front of it. The bow constantly cuts through the pile-up, creating strong underwater currents in the process. Cetaceans can position themselves in the currents alongside a boat and ride that constant forward wave, much like underwater surfing. A bowriding cetacean only has to adjust his steering to stay inside the wave and occasionally rise to breathe or change position, which requires very little energy compared to swimming.

The bowrider gets a +5 bonus to Endurance and is able to travel the same speed as the boat as long as he bowrides. Not only does this method give cetaceans a virtually free ride, most cetaceans find the sensation of riding the current absolutely exhilarating. They occasionally leap not only because it



allows them to change position, but also because it adds to the thrill. However, only the smaller cetaceans, namely bottlenoses and commons, are usually able to bowride, as the other whales are too big and heavy to use the current on anything but the very largest of ships. Also, if the boat begins to travel too fast, the bowrider will not be able to adjust his position quickly enough and will have to drop out. The boat cannot exceed the cetacean's maximum swimming speed by more than 10 kilometers per hour or the bowrider cannot keep up. Boat noise gives a bowriding cetacean character a -1 penalty to any echolocation rolls.

Surfing

Whales can ride surf up onto sandy beaches where they voluntarily strand themselves between incoming waves. When the next wave crashes in, the whale can deftly ride the surf back into deeper water and swim away. This can be a useful hunting and combat tactic, but it is not without risk. If a cetacean chooses to beach himself, the player must make an Aquatics roll at a -5 penalty to catch a subsequent wave and return to the water. If successful, the character is able to ride the outgoing wash back to deeper water. If unsuccessful, the character fails to free himself from the beach and must follow the stranding rules described below.

Hydroplaning

Cetaceans are uniquely streamlined and strong, and as a result, are able to power themselves through shallow water only a few centimeters deep. This hydroplaning is a primal hunting technique cetaceans still use to trap fast prey against the shoreline. Cetacean combatants also use the technique to ambush or chase opponents along the water's edge. When a whale hydroplanes, it noses through the shallows, skimming along on a thin layer of water between its belly and the sand. The surface water slides over the top of the swimmer, making a thin laminar flow over its back continuous with the surrounding water's surface.

To hydroplane effectively, a cetacean character must make an Aquatics roll with a -3 penalty. If successful, the cete is able to hydroplane at one half its top speed. If the roll fails, the cetacean is unable to plane, and must make a Coordination roll. If he fails that roll, the whale accidentally beaches himself and must follow the stranding rules below. Common

dolphins may hydroplane in as little as 12 centimeters of water. Bottlenose dolphins and Belugas require at least 20 cm of water to 'plane and Orcas and Pilots need a minimum water depth of 40 cm to hydroplane.

Stranding

The fear of stranding is a cultural phobia among cetaceans and for good reason. If not soon helped by other characters or an incoming tide, a stranded cetacean's own weight will begin to crush its internal organs, causing severe trauma and suffocation and eventually killing it. At the end of every hour a cetacean character is stranded, the Game Master makes a damage roll against that character with a rating of 5. Due to the internalized nature of the damage, this roll must be made without subtracting the character's Toughness value from the target number. The player must make Physique rolls accordingly, and any damage incurred is assumed to be from suffocation, organ trauma, internal bleeding, and sunburn. Obviously, the longer a whale is stranded, the more damage he suffers and the more life threatening the situation becomes. If the character's total impairment penalties suffered from stranding damage exceeds 10, the character dies.

Diving

When a cetacean dives, the pressure on his body increases at a rate of approximately one atmosphere for every 10 meters of depth. Diving ability varies among the different species, but orcas, for example, can dive as deep as 300 meters, creating an incredible thirty atmospheres of pressure on their bodies. Like humans, cetaceans' bodies are mostly water, which is almost incompressible, allowing their bodies to keep their shape even under great pressure. But cetaceans surface to breathe just before diving, and the air in their lungs and middle ears presents a problem that requires special adaptations to overcome. As the pressure increases, cetaceans' lungs actually collapse, forcing most of the air into the passages leading to the blowhole. Similarly, the lining of the middle ear swells with blood during a dive to reduce the amount of airspace and thus keep the ear at the same pressure as the outside environment. In addition, the heartbeat slows and circulation is restricted to the vital organs to reduce oxygen consumption, allowing cetaceans to remain submerged longer. Cetaceans also have acquired a

higher tolerance for lactic acid and carbon dioxide, toxins produced when a mammal's body is deprived of oxygen.

Cetes rarely talk about the sensations of diving, but passages in the Whalesong describe exhilarating feelings of compression and suffocation that can clear the mind and bring visions. Sometimes cetes with a lot on their minds will suddenly take off underwater and not reappear until hours later. During that time, they will dive over and over again, often to their maximum depth and duration. The diving reflex seems to help them mull over problems or release strong emotions, and these divers usually return to the surface calm, confident, and resolved.

SLEEPING

Because cetaceans are marine mammals, they must breathe air instead of extracting oxygen from the water as fish do. Therefore, even during their long sleep periods, they must surface to breathe. What is more, unlike terrestrial mammals, cetacean breathing is an entirely voluntary process; in other words, if they lose consciousness, they stop breathing and can die. Cetes have developed a unique adaptation to these problems: they never fully fall asleep. One-half of a cetacean brain sleeps, while the other half works to keep the dolphin upright and breathing. During sleep, cetaceans will either float near the surface or fall into a repetitive swimming pattern along with their entire pod. They each keep one eye on the group and the other eye closed. Periodically they will all shift positions and change eyes. Because they are not able to sink into full unconscious sleep, cetaceans do not dream. They find human descriptions of this phenomenon both puzzling and fascinating.

Migratory primal cetaceans slept more in warmer waters and rested less in colder waters to help maintain their body temperature. Modern cetaceans generally live in warm waters year round and so are able to rest more. Humans on Poseidon typically sleep about 10 hours a night, although they tend to wake frequently during the early morning. Most cetaceans, except for pilot whales, were diurnal in their primal state. Pilots have adapted to the human day-night schedule but readily revert to their primal nocturnal lifestyle when necessary. Cetaceans are able to go without sleep more readily than humans are and can remain fully awake for an entire day without notable fatigue.

SEX

Cetaceans, like humans, do not engage in mating behavior only for the sake of reproduction. However, sexual activity among cetaceans has a different meaning and purpose than among humans. It is not used only for pleasure or to create a bond between two individuals, but also in the greeting and bonding of whole groups, especially after periods of separation. In addition, while sexual standards on Poseidon are relatively relaxed compared to other places and times in sentient history, cetaceans carry sexual freedom to an extreme that can make even natives uncomfortable. For instance, young cetaceans will often engage in sexual activity with their mothers and aunts. While most modified cetaceans have learned to restrain their sexual urges around human colleagues and friends, they still regularly make sexual overtures to disparate species of cetaceans, and even humans, with varying levels of success.

Whales have developed a variety of behavioral cues to indicate sexual interest. These include chasing, nuzzling, rubbing, rolling, flipper and fluke slapping, and breaching. Some of these more physical displays are also used by males to warn off sexual competitors. If these warning cues go unheeded, more aggressive actions like lunging or sideswiping with the flukes and tail often follow.

These behaviors are all carryovers from the cetacean primal past, but modern dolphins are also able to signal interest through more direct, intelligent means. Cetaceans seem almost totally lacking in the innate shyness humans generally display when selecting new sexual partners. This difference caused a great deal of awkwardness and misunderstanding in early human-cetacean professional and personal relationships. As the minority species, cetaceans have since learned when and how to express themselves sexually among humans. And to a certain degree, humans have learned to accept cetacean behavior that at times seems to them inappropriate or vulgar. Some humans, however, have embraced the cetacean sexual aesthetic and pursue all manner of encounters with great enthusiasm and little embarrassment.

Reproduction

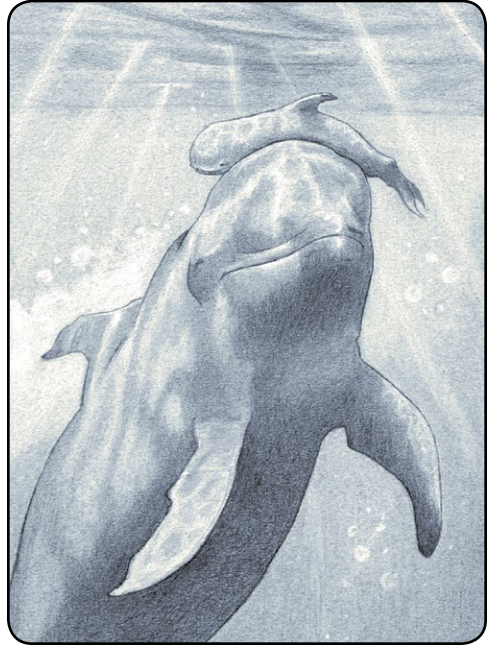
In contrast to the typical cetacean casualness about everyday sexual contact, female whales are quite deliberate about choosing a mate once they are ready to conceive. They take into account not only

the physical and mental abilities of the male, but also the genetic diversity he can provide. The Whale-song glorifies mating, pregnancy, calving, and mothering in many of its songs, enculturating into females the desire to reproduce as often as possible. Some cetologists theorize that this preoccupation with procreation is a cultural response to the trauma of the near-extinctions primal cetaceans faced, heightening their natural survival and reproductive drives. As a result, instead of using birth control for long periods, female cetaceans usually tend to use it for only a few months at a time in order to stagger births in a pod or coincide delivery with the most favorable seasons. Cetes are not as dependent on birth control as humans are, though. Pod members can use echolocation to sense whether a female is in estrus, allowing females to better facilitate conception and to avoid sexual contact if they do not wish to become pregnant.

Pregnancy and Birth

Gestation times are listed by species, but they generally last from 9 to 16 months. Deliveries in the flukes-first or breech position are most common and most successful. Births can take from 30 minutes to 2 hours, and the breech position allows the umbilical cord to remain connected and functional until the last moments. If the cord breaks too soon, the calf might drown. After delivery, a calf is pushed to the surface by his mother and midwife for his first breath.

Because cetaceans rarely face birthing complications, most females choose to give birth in their home shelter or the local Church of the Whalesong. Usually a midwife and a few other females attend them. The midwife is often a close friend or relative of the mother rather than a paid professional. All cetacean females are instructed in calfbirth and rearing once they reach adolescence, and most have been present at several births by the time they become adults. Almost any female is therefore fully trained to assist at a birthing and will probably play the role of midwife several times over the course of her life. Moreover, the role of cetacean midwife extends well beyond the moment of birth. The midwife works closely with the mother to protect and nurture the calf for the first months and acts as a kind of aunt or godmother for the rest of its life. The cetacean terms for the role, roughly translated as “friend-helper” or “second mother,” better capture the significance of these relationships. If the calf is born very weak or



somehow deformed, the friend-helper often takes it to the sea floor and holds it there until it drowns. This practice troubles many humans, but cetaceans staunchly defend it. On Earth, several cetaceans, both mothers and helpers, have faced prosecution and conviction for murder as a result of this practice even though the laws of the Cetacean Cultural State clearly allow it.

Despite the more liberal attitudes and diverse cultures on the colony world, tensions still exist between cetaceans and many humans regarding the practice of calfcide. Even on Poseidon, a visibly pregnant female who comes to full term but loses her calf is invariably subjected to censure and suspicion by many humans when she claims she miscarried. For this reason also, cetacean mothers typically choose to give birth in their shelters or churches as opposed to public hospitals. They want to avoid additional problems if they decide their calves are not fit to live.

Despite this seemingly heartless practice, cetacean mothers and friend-helpers are loving and dedicated nurturers. The females keep careful watch over their calves, protecting them from the many dangers inherent in life in Poseidon's oceans. Mothers and friends are constantly vigilant for predators and parasites and are quick to defend an endangered calf. They dote on their young and begin teaching

them social, survival, and hunting skills from their first days. If a calf is sick or exhausted, the mother or friend will support it at the surface to help it breathe, even at the cost of their own health and safety. In every way, cetacean caregivers are as affectionate and diligent as any human mother is. Mothers suckle their calves for 6 to 36 months, depending on the species. The feeding generally takes place close to the surface so that both mother and calf can breathe. The milk is actually injected into the calf's mouth by muscle action to speed feeding times, an obvious advantage for underwater mammals. Mother's milk is extremely high in fat and calves grow very quickly in their first year of life as a result.

Cetacean calves are born precocious. This means that, unlike human infants, cetes are born with most of their physical and cognitive systems fully developed. They can see, hear, swim, and begin their enculturation right from the start. They begin to learn language immediately, and though their vocabulary continues to develop, calves gain adult command of speech by the age of one. As a result, cetacean calves mature much faster than human children and therefore gain independence at a younger age.

Male involvement in child rearing varies across species and was typically limited in primal history. In their genlifted state, however, cetacean fathers are beginning to take more active roles in raising their children. Paternal involvement in child rearing is described in the following sections on individual species biology.

Juveniles

Most cetaceans go through the same milestones in their juvenile development: leaving the mother's pod, reaching sexual maturity, and achieving physical maturity. However, the ages at which these stages occur and the order in which they happen vary widely by species.

Some cetaceans, such as bottlenoses and common dolphins, leave their mothers to join a juvenile pod well before reaching sexual maturity. This occurs once they are weaned and capable of hunting and living by themselves, generally when they are a few years old. Young dolphins remain in these juvenile pods until sexual maturity. For bottlenoses, this is about 8 to 12 years for females and 5 to 10 years for males. Common dolphins reach sexual maturity sooner, at only six and a half years for both males and females.

The larger cetaceans are slower to leave their mothers' pods. Belugas and orcas generally stay until they reach sexual maturity, which occurs at about 8 or 9 years of age for bels but takes 15 to 20 years for orcas, who are by far the slowest to develop. Pilots are the exception, as they typically remain members of their mothers' pod for their entire lives.

Most cetes reach physical maturity, or their full size and development, at or before sexual maturity. For bottlenoses, commons, bels, and pilots, both occur at around the same age. Orcas tend to reach physical maturity a full five years before they are sexually mature. Regardless of these differences in development, most cetaceans are not considered true adults culturally until they are at least in their mid teens. Adult humans and cetaceans alike are generally more interested in an individual's maturity and experience than his biological development when considering whether to treat him as an adult.

DIET

All the surviving cetacean species are predators, eating other animals to live. Most of them still eat only meat and prefer hunting their own prey when possible. Typical daily food consumption is listed by species, but these values are averages only and not fixed numbers. Requirements vary depending on health, level of activity, location, time of year, and even mood. In colder seasons or climates, cetaceans have to eat more to build up their blubber and maintain body heat. In warmer months and locales, the reverse is true. Additionally, gestating mothers also require better nutrition and higher than average caloric intake.

LONGEVITY TREATMENT

Cetaceans are as responsive to longevity treatment as humans, and most of them, including the leadership of the Church of the Whalesong, enthusiastically embrace it. In fact, the primary reason most cetaceans work, aside from a personal interest in their field or to support their dependence on various technologies, is so they can afford longevity treatments. Some cetologists suggest that the cetacean enthusiasm for longevity is a direct consequence of their lingering cultural fear of extinction. The Church encourages cetes to begin therapy upon reaching physical maturity, thus prolonging the most fertile stage of a cetacean's life indefinitely. Almost every

cete is either undergoing longevity therapy or is working to finance the treatments.

Typically, the only whales that do not prolong their lives are those isolated on the frontier and the very poor. A small sect in the Church of the Whale-song also refuses to undergo treatment because it claims longevity is an offense to the natural cycles of life. Most cetaceans consider any whale that intentionally avoids longevity treatments to be clinically deranged.

Because the cetacean population and its markets are small, and because whales require unique medical technologies, longevity therapy on Earth costs 30% more for cetaceans than for humans, or 200,000 scrip for a year's worth of treatments. The markup for cetaceans is the same on Poseidon, but the original treatment is vastly cheaper as patients there do not have to cover the expense of importing Long John through the wormhole. On Poseidon, the same yearly treatment costs only 20,000 scrip.

COMMON DOLPHIN

DELPHINUS DELPHIS, ALSO CALLED COMMONS

ANATOMY

Common dolphins are by far the smallest of the modern cetaceans. They reach a mature length of only 2–2.5 meters and weigh just 90–130 kilograms. Males are slightly longer than females. Aside from their much smaller size, commons look a lot like fins. They both have beak-like, protruding mouths, though the common's is narrower, and their body shapes are similar. Commons are unique in their distinctive coloration, though, with glossy black backs and flippers and yellow-gray flanks with whitish stripes. Their underparts are white, and a black line extends back from the beak to surround each eye. Common dolphins' dorsal fins are prominent and relatively tall like those of orcas. Commons have about 160 to 200 teeth, many more than the other modern cetacean species.

LIFESPAN

Primal commons typically lived for 30 to 35 years, but modern commons enjoy a lifespan of about 55 years. Like all cetaceans, commons can live indefinitely with regular longevity therapy.

SWIMMING AND DIVING

Commons can reach a top speed of about 45 kilometers per hour but usually travel only 8–11 kilometers per hour. They can travel a maximum of about 225 kilometers a day. Commons can dive as deep as 280 meters for as long as 8 minutes, but rarely dive deeper than 30 meters or stay under more than 3–4 minutes. They are fast, agile swimmers who travel with a unique twisting motion, moving their whole bodies from side to side as if always keeping an eye on the surface.

REPRODUCTION

Commons are able to reproduce every two years. They deliver calves less than a meter long after a nine and a half month gestation, and suckle their young for about six months. Like fins, commons are rather independent, leaving their mothers to join juvenile pods when only two to three years old. Common calves develop faster than all modern cetaceans, reaching sexual and physical maturity in just six and a half years.

DIET

Modern commons eat about 8–9 kilograms of food each day, which is less than 1% of their body weight.

PRIMAL BEHAVIOR

Primal commons once fed on squid as well as schools of migrating fish, such as anchovies, herring, and sardines. They sometimes fed in small groups on small organisms that rose up from deeper waters in the early evening. When their prey began to sink again, the groups converged for rest and social interaction. Similar to bottlenoses before modification, commons preferred warmer temperate and tropical waters and ranged from deep, open ocean to coastal shallows. They, too, were herd animals, forming groups of tens to several thousand. They chased the same prey as tuna and were the species most likely to get caught and drowned in fishermen's nets. They were also heavily hunted themselves, especially in the late twentieth century.

As their name implies, commons were once numerous and widely distributed, located in the warmer waters of nearly every ocean on Earth. They led a somewhat nomadic lifestyle, following the movements of food fish within a broad but fairly stable home territory. They were quite playful, often

seen riding the bow waves alongside ships, leaping out of the water, and playing with floating objects, sea turtles, and unfortunate fish.

MODERN BEHAVIOR

Common dolphins are the most gregarious, free-spirited, and fun loving of the cetaceans. No species—human, cete, or otherwise—loves a joke more than commons, especially acrobatic physical humor, imitations, and silly language play. Commons are often not taken seriously by members of other species because of their easygoing demeanor, joking behavior, and smaller stature, but in truth they are not as naive or calfish as they usually appear to be. In fact, they are generally as intelligent as bottlenoses and certainly as clever as humans. They are more intuitive and alert than most species and are curious and always eager to learn.

PRIMAL PODS

During the spring mating season, primal commons typically lived in pods like the belugas', mixed-gender groups led by a dominant male. However, in the fall, the pods divided into male-only and female-calf groups. During this season, even when gathered in large herds, females and young tended to congre-

gate separately from the males. Unlike other cetaceans, commons often paired for the mating season with these bonds continuing from year to year. They also tended to copulate with more tenderness and sensitivity than most cetaceans.

MODERN PODS

Commons Only

Commons' extended pod structure is very much like the belugas' in that mixed-gender groups live together under the leadership of the dominant male. However, while beluga groups tend to separate permanently into segregated pods of males and mothers when possible, commons generally stick to their primal pattern of combining groups in spring and dividing them in fall. Moreover, unlike other species, the smaller, gender-divided pods are not totally stable from season to season. Generally the same mothers and calves will rejoin with the same males in spring, but some shuffling may happen from year to year. Perhaps the annual joining and separating of the overall group weakens the bonds between pod members, or perhaps maintaining the status quo is not as critical to cetaceans already used to annual change. The commons' easygoing personalities seem linked to this flexible group structure, either as a cause or as a direct result.

Commons are quite independent, probably for the same reason, and calves leave their mother pod to join a pod of other juveniles as soon as they are old enough to fend for themselves, usually well before sexual maturity. Juvenile commons typically change membership several times before they find a pod that is a good fit. They often stay with such pods only a few years until they reach adulthood and change again. Commons do not forget their family ties, though, and will often visit the mother pod in the spring when the smaller groups join together to mate.

Common dolphins are certainly not monogamous, but they come closest to forming human-like exclusive relationships. The male custom of rejoining the same female groups in spring is a loose kind of long-term commitment. Even so, the practice of active fatherhood has been slow to develop among commons. Historically, most fathers have participated very little in the raising of calves, preferring to save their attentions for other adult males and their female partners when the groups come together in the spring.

Perhaps influenced by the orcas' forays into fatherhood and the uncles' guidance of older calves among

RECOMMENDED READING

Much of this biological information is drawn from the following sources, and the rest are just good source material on cetaceans.

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pilot whales, common fathers have recently begun to involve themselves more with the raising of calves. They still largely eschew the females and young during the fall separation—though some have even begun to cross these boundaries—but many have actually begun nurturing, playing with, and modeling adult male behavior for even very young calves. Some of the most progressive fathers have even asked to be present at the birthing of their calves, assisting the midwife and helping the newborn to the surface for its first breath.

Mixed Groups

In most pods, commons are highly valued company for their light-hearted nature, though at times they can frustrate both humans and other cetaceans who are trying to be serious. They are best suited to research teams and native groups where they do not have to follow a disciplined regimen or schedule in accomplishing their work goals. However, some commons are able to function quite well in certain GEO and incorporate positions as long as their superiors are willing to put up with a level of looseness and unpredictability. The contributions of commons are at times overlooked or ignored by groups who are not used to dealing with this playful species; but over time, most pods come to realize that there is more to these diminutive cetaceans than is first apparent. Like those of Shakespeare's proverbial fool, sometimes the greatest insights come from the least likely and most unexpected sources.

Commons are the most adaptable and flexible of all cetaceans. They are raised to be independent, leaving the mother pod at a young age, yet they

FINS AND FISHES

The term "fin" was originally used to mean bottlenoses specifically. However, humans have gotten into the confusing and sometimes condescending habit of using the term "fin" to refer to all cetaceans indiscriminately, as if all cetaceans were alike. Moreover, when humans wish to disparage cetaceans, either in earnest or as a joke, they often refer to them as "fish."

Depending on how it is used, the term "fish" can be affectionate or offensive. Some cetaceans manage to find these labels amusing, no matter what the tone.

are also quite loyal. They experience the stability of staying with their mother's pod all year, yet they are comfortable with change, used to seeing half their pod leave every fall and return again in the spring. In addition, even though commons are raised in a patriarchal society in which males dominate females, they spend half the year in the charge of independent females. They are therefore comfortable in structures with either males or females in authority. Commons often test relationships early on by teasing and playing jokes. They judge a person's character based on his response to such ribbing. They like best those who can stay good-natured when teased but know how to draw the line when the dolphins go too far. Moreover, even though commons' behavior does not promote respect for their species' intelligence, they look for that quality most in any new acquaintance.

BOTTLENOSE DOLPHIN

TURSIOPS TRUNCATUS, ALSO CALLED FINS

ANATOMY

Bottlenose dolphins, or fins, are easily identified by their muted coloration, dark gray above that fades into a pinkish white belly, and their narrow, beak-like mouths that jut out from a rounded head. Their lips curve upward toward the crease where the forehead meets the beak, giving them their characteristic smile. They have between 80 and 100 conical, interlocking teeth, and their long bodies are characterized by relatively small, pointed pectoral fins and flukes. Bottlenoses grow to a length of 3–4 meters

and a weight of 250–450 kilograms. Females are somewhat larger than males.

LIFESPAN

Primal bottlenoses only lived about 35 years, with females living a few years longer than males. Modern fins of both sexes, however, can live more than 50 years with adequate medical care, and indefinitely with regular longevity therapy.

SWIMMING AND DIVING

Fins generally swim 8–10 kilometers per hour and can travel a maximum of 200 kilometers in a day. For

short bursts, they are able to attain speeds of up to 40 kilometers per hour. Dolphins usually dive less than 50 meters for less than 2 minutes, but they are physically capable of diving up to 500 meters for as long as 30 minutes.

REPRODUCTION

Females generally calve every 3 to 5 years, with a 12 month gestation period and 24 to 36 months of suckling. Calves measure about 1 meter at birth and are unusually independent, leaving their mothers when they are only 3 or 4 years old to join a juvenile pod. They reach physical maturity at age 10, and are sexually mature after 8 to 12 years for females, and 5 to 10 years for males.

DIET

Modern dolphins require 15 kilograms of food each day, or less than 0.5% of their body weight.

PRIMAL BEHAVIOR

Primal bottlenoses fed on small fish, eels, squid, and crustaceans. They lived in both coastal regions and open oceans in temperate and tropical climates worldwide. Fins preferred to live in pods of two to a dozen members but occasionally gathered in herds as large as several hundred. Offshore pods often swam and fed with other varieties of cetaceans. In fact, they reportedly interbred and produced viable young with several other species of now-extinct dolphins.

Bottlenose dolphins have a long history of cooperation with people. A familiar sight to sailors for centuries, they often surfed breakers and rode the bow waves of ships. For several decades of the late twentieth century at Monkey Mia, Australia, a number of wild bottlenoses even came into shallow waters on a regular basis to allow humans to pet and feed them. There were anecdotal stories from all over the world of bottlenoses herding fish into fishermen's nets and saving drowning humans by pushing them to shore.

MODERN BEHAVIOR

Most fins are well-adjusted, adaptable cetaceans. They learn independence early in life by leaving the mother pod to mix with other juveniles at a young age. This is regarded as a critical stage of development by older fins, and most adults are secure, outgoing, and adventuresome as a result. Yet this strong sense of self-reliance is balanced by an intense loyalty between adult fins and their pods, especially

among males. Fins are more serious than commons but share the same love of jokes, pranks, and all sorts of physical play. They are disciplined enough to stay focused on a task when needed but tend to turn what they can into a game. They continuously build on each other's creativity to find new or silly ways to accomplish repetitive and everyday tasks.

PRIMAL PODS

Primal fins typically lived in small groups of two to twelve, segregated by gender and age. Adult males banded together separately from adult females and their calves. Juvenile females and males separated from their mothers before sexual maturity to form their own gender-segregated groups. The juvenile groups were the most fluid and socially active, with lots of mixing between groups and plenty of sexual and acrobatic play. Once a daughter had her first calf, she usually returned to join her mother's pod. When males reached maturity, they formed extremely loyal fraternities of three to five members that often lasted their entire lives. If the rest of a male's group were killed, he often would refuse to bond with another pod and would live the rest of his life in solitude.

MODERN PODS

Fins Only

Most bottlenoses still follow grouping patterns similar to those of their primal past. Calves stay with their mothers until they are ready to be independent, then join juvenile pods. Once they reach sexual maturity, females still tend to rejoin their mother's pod if they can; but if they live far away, they will join pods with other unrelated females to raise their young. Males still form their primary relationship with a few other males upon maturing sexually. Their sense of loyalty and attachment in these relationships is still quite high, and they choose their partners carefully and change them rarely. This bonding is so intense that often a male's podmates become integrated into his sense of self. They make all major choices together, including career and relocation decisions, and if a podmate is attacked or hurt, the others' response is instantaneous and violent.

Mixed Groups

Fins still tend to organize groups along familial and fraternal lines, even in relationships with other cetacean species and humans. Adult female fins tend to be drawn to other mothers of any species with

whom they can share the responsibilities of raising young. Females without calves gravitate toward other females without calves, though those with nurturing personalities still like to spend time with mothers, helping to care for their children or calves. Males require a longer acquaintance period before they decide to commit their loyalty because their bonds are more enduring than females', who more quickly form and break close relationships.

Bottlenoses are well aware that they are the smartest of the cetaceans, and though they would never admit it, this awareness gives them a certain smugness. As a result, in mixed groups they almost always want to be the leaders. They also consider themselves well above humans in intellect and general capabilities though they are respectful of humans' terrestrial abilities and overall dominance in the world.

BELUGA

DELPHINAPTERUS LEUCAS, ALSO CALLED BELS

ANATOMY

These beautiful whales are ivory or white with a bulbous, protruding forehead, a small but distinct beak, a small dorsal ridge instead of a fin, and short pectoral fins. The lack of a dorsal fin and reduced pectorals evolved to minimize heat loss in their primal arctic environment. The dorsal ridge, which runs from the middle of the back down to the tail, still provides swimming stability and was also once used to break breathing holes in the ice. Their bodies are quite stocky and fat as blubber makes up 40% of their body weight—another important adaptation to life in frigid arctic waters. Belugas have about 40 conical teeth in their relatively small mouths. Bels are slightly larger than bottlenose dolphins, growing to lengths of about 5 meters and weights of 1,000–1,500 kilograms at maturity. Adult males are slightly larger than females. Belugas' body structure is significantly different from other cetaceans. Though not nearly as acrobatic as orcas or bottlenoses when it comes to aerial tricks, they are much more flexible. Bels are capable of moving their necks, rotating their flippers and heads, and twisting their bodies in ways and to degrees other species find impossible.

LIFESPAN

In their primal state, belugas lived 35 to 50 years. Modern belugas live considerably longer; males survive to an average of 75 years and females to about 80. With good medical care and longevity therapy, they can live indefinitely.

SWIMMING AND DIVING

Belugas typically swim slowly, about 3–9 kilometers per hour, but are capable of traveling up to 22 kilometers per hour for up to 15 minutes. Bels can travel

a maximum of 110 kilometers in a day. They usually dive only for about 5 minutes but are capable of staying down for as long as 20 minutes and traveling 2–3 kilometers before surfacing. Their maximum dive depth is 650 meters, but they more typically dive to about 20 meters before surfacing. Their usual pattern is to make five or six brief, shallow dives followed by a one-minute deeper dive.

REPRODUCTION

These white whales are born dark brown or blue-gray with fine dark spots. This juvenile coloring quickly fades to gray and finally to the characteristic adult white. Every 3 years, females are able to reproduce, with a gestation period of 14 months, followed by 22 months of suckling. Calves measure 1.5 meters at birth and weigh about 80 kilograms. Females are sexually mature earlier than males, at about seven years, as opposed to eight or nine years for males. Both sexes achieve physical maturity after about seven years.

DIET

When belugas lived in frigid waters, they required 20–25 kilograms, or nearly 2% of their body weight, of food each day. They needed this high caloric intake to maintain their body temperature in the cold water. For primal belugas, a thick blubber layer was critical to staying warm in the cold polar waters, but the layer thinned annually during their fall migration to warmer waters. Modern belugas living permanently in temperate waters need only this thin layer of blubber to meet their metabolic and thermoregulatory needs. In fact, it is dangerous for belugas to maintain cold water blubber mass in warmer waters as they can easily overheat. Modern belugas therefore only require about half as much food as their primal ancestors, or about 12–15 kilograms per day.

Unfortunately, many bels still struggle with obesity, being genetically and culturally programmed for a higher caloric intake.

PRIMAL BEHAVIOR

In their primal state, bels ate many types of fish, especially salmon, as well as crustaceans and octopi. They preferred cold waters in arctic and subarctic regions, especially shallow bays and estuaries and sometimes even rivers. To maintain body heat, belugas moved around a great deal and were unable to rest much when they were in the colder waters. In autumn, primal belugas migrated from the Arctic southward into Canada's Maritime Provinces and the coasts of Scandinavia. They traveled in small groups in winter, but in summer gathered in herds numbering in the thousands. The molting season for belugas occurred during this migration period. Unlike other cetaceans that sloughed off skin continuously, belugas built up dead skin throughout the year and shed it all at once. This gave them a yellowish-brown appearance right before they molted and their skin returned to white. During these times, belugas would migrate upriver to shallow areas where they could rub themselves on rocks to scrub off the dead skin.

Primal belugas were very vocal cetaceans, producing a wide range of clicks, squeaks, yelps, and whistles that earned them the nickname "sea canaries." They made excellent mimics and even in their primal state were able to imitate a few human words. They commonly swam upside-down while calling.

MODERN BEHAVIOR

Bels struggle with situations where they have to wait or remain inactive, as they are genetically conditioned to stay on the move. As a result, they have a tendency toward restlessness that can cause them to grow impatient quickly and rush into action. Belugas are not as quick as commons or fins to process information or put ideas together, but they are quite intelligent in their own way. They are typically artistic, whether as musicians, dancers, church singers, or orators. They are gifted communicators, uniquely vocal and accomplished in cetacean, beluga dialect, interspecies, and often various human languages as well. Bels tend to be the most reflective, introspective, and philosophical of the cetaceans. Belugas still molt annually just as they did in their primal state. They often gather in large groups far away from settlements during these times, as the smell of

the rotten skin is unbearable to most humans. Other cetaceans are not generally sensitive to smell, but even they find the malodorous company of a molting beluga distasteful.

PRIMAL PODS

Unlike those of other cetaceans, primal beluga pods often contained a mix of genders in the adult groups. However, even this pod structure mirrored general cetacean group dynamics. The males still did not exhibit fathering or romantic coupling behavior, and the primary relationships were among the females and their calves and among the males who competed within their own subgroup. Usually these pods contained around 10 members, led by a large male. Unlike other cetaceans, juveniles did not form pods on their own. They stayed longer than most other species in their calthood pods, only leaving when the pods grew too large and they were forced out or they reached sexual maturity and left to form or join pods of their own.

During periods of migration or times of abundant food, belugas would sometimes form groups of 200 to 10,000 individuals composed of many of these pods combined. As a result, bels were more dolphin-like in their ability to function in larger, mixed groups.

MODERN PODS

Beluga Only

In areas where large enough groups of belugas are living and working together, they still form pods similar to those of their primal past. In situations where they are faced with many predators or other dangers, the primal pattern is especially prevalent because there is strength in numbers and the females and their calves need the extra protection the males can provide. However, where there are fewer threats, belugas seem to prefer living in single-gender groups, essentially by dividing the larger traditional group in two. Sometimes a female and a male pod will be loosely allied, providing help or favors to each other in times of need.

Even though belugas no longer migrate, they still hold regional and even worldwide gatherings to mark important seasonal holidays or historical events such as the anniversary of their genlift, the opening of the storm surfing season in the storm belt, and the spring ice melt. The belugas seem to embrace every opportunity to reunite with old friends and family

and mix with far-flung belugas they have not yet had the chance to meet.

Mixed Groups

As with commons, the contributions of belugas sometimes tend to be overlooked in mixed groups. They often have to overcome the stereotypical perception that belugas are artsy and impractical. With time, though, bels' superior communication abilities usually come to be appreciated. In many groups they play an essential role by mediating disagree-

ments and clearing up misunderstandings. In addition, bels are often chosen to speak for the group in situations that require persuasiveness and diplomacy. Their creativity adds an innovative quality to any group, and they regularly come up with surprising solutions to difficult problems. Bels grow frustrated quickly when they have to wait or perform repetitive tasks, though, and sometimes groups have to cater to their temperamental personalities to keep them involved and cooperating.

PILOT WHALE

GLOBICEPHALA MELAENA, ALSO CALLED **BLACKFISH**

ANATOMY

A pilot whale's body is quite long and stocky. Males can exceed six meters in length and 3,200 kilograms in weight, while females are closer to 5.5 meters and 3,000 kilos. They are the second-largest genlifted species after orcas. Pilot whales possess long, sickle-shaped fins and relatively large dorsal fins located rather far back on their bodies. Their flukes are small for their size, somewhat rounded, and deeply notched in the center. The head is rounded like an orca's with no beak or rostrum. Pilots are all black with a white anchor-shaped patch on the chin that narrows down the underside to the anus. Like belugas, pilots have about 40 conical teeth.

LIFESPAN

In their primal state, males lived 40 years and females about 42 to 50 years. Genlifted pilot whales with good medical care live considerably longer; males typically survive to age 60 and females to 65. Like all cetaceans, their lifespan is indefinite with regular longevity therapy.

SWIMMING AND DIVING

Pilots can swim as quickly as 40 kilometers an hour, but they prefer to travel much more slowly, usually about four to five kilometers per hour. They can cover a maximum of 200 kilometers in a day. Pilots tend to breathe very quickly, rarely exposing more than the tops of their heads and dorsal fins. They are able to dive as deeply as 600 meters but more typically dive to a depth of about 70 meters. They are able to stay submerged up to a maximum of 45 minutes,

which is significantly longer than any other modern cetacean species. Most dives, though, last only about 7 minutes.

REPRODUCTION

Females are able to reproduce every three to five years. Pregnancies last 16 months, producing calves a little less than 2 meters long. Mothers usually suckle their young for about 20 months. Female pilot whales develop much more quickly than males, reaching sexual maturity in six and a half years, as opposed to eleven for males. Both genders achieve physical maturity at about ten years of age. Unlike other cetacean species, many pilots never leave their mother's pod for life on their own.

DIET

Pilots consume about 45 kilograms of food each day, or about 1% of their body weight.

PRIMAL BEHAVIOR

Primal pilots primarily ate squid and some fish. They preferred cold and temperate waters in which they could rest during the day and hunt at night. Thus, though no primal cetaceans were strictly diurnal, pilots are the only modern cetaceans that were regularly nocturnal. They used to strand themselves in large numbers on Earth's beaches, probably because of their poor magnetic sense and tendency to follow even confused or sick leaders blindly.

MODERN BEHAVIOR

Pilot whales are perhaps the least intelligent of the cetaceans. They are capable of learning complex and varied tasks but are not very good or imaginative problem solvers, especially when working alone.

They tend to give up too quickly when they encounter a problem, or continue attempting whatever procedure they are using over and over again despite its continued lack of success. Simply put, they lack innovation and creativity. However, pilot whales make excellent team players, being pliant, non-confrontational, and uniquely cooperative. They are the most sociable and group-oriented of all the modern cetaceans, extremely loyal and prone to follow without question.

Pilots are excellent peacemakers, quick to diffuse tense situations before they escalate. Often, before the participants in a heated debate are even quite aware of it, the pilot in their company has directed the conversation to less controversial ground or somehow distracted them from their disagreement. Pilots are excellent at designing fair compromises and quietly persuading or negotiating with difficult parties.

Their seemingly slow wit means pilots are easily taken advantage of, but they are not always as naive or oblivious as they seem. They are usually aware that others have overstepped their bounds but are so heavily socialized into keeping the peace that they rarely speak up. Instead, they express their disapproval by more indirect means. Pilots rarely participate in contentious debates, but in a quiet moment they will often approach the group leader to express their views.

Though they will usually at least seem to follow orders given by those in authority, pilot whales' true loyalty belongs to those who listen to them and offer them due respect. If his input is disregarded and a pilot feels strongly enough, he may appear to go along with the circumstances while in actuality doing everything he can to orchestrate the outcome he prefers. For instance, a pilot whose group has decided to work under conditions he thinks are too dangerous may "misplace" a vital tool or part, necessitating at least a temporary break. If the pilot's subversive actions are discovered, he usually has an easy time convincing the rest of the group it was an innocent mistake. Pilots simply play up their reputation for being unintelligent, and most humans and cetes alike readily believe them. As a consequence, pilots make great spies because no one ever suspects they would be capable of manipulating or double-crossing them.

Pilots are the most pacifistic of the cetaceans and generally refuse to participate in violent acts against other sentient beings. They are not squeamish about

the sight of blood—after all, they hunt and kill prey every day—but they refuse to participate in physically aggressive acts except in cases of self-defense. Many think this unique cultural stance is an outgrowth of pilots' inherent aversion to confrontation. Both cetes and humans find this belief at the same time puzzling and deserving of respect.

Though they are genetically programmed to be nocturnal, genlifted pilots have adapted to the diurnal schedule humans and most other cetaceans follow. They can quite easily revert back to a nocturnal schedule when necessary, however, which can be a valuable advantage in certain occupations.

PRIMAL PODS

Primal pilot whales typically lived in pods of four to six individuals that occasionally joined with other groups to form large herds ranging from fifty to several thousand whales. Unlike other cetaceans, pilots generally stayed in the same pod they were born into for their entire lives. The oldest mother or grandmother usually led these groups. In spring, the adult males tended to leave temporarily, either alone or in pods with other sexually mature males, to search out mates. Even when competing over females, primal pilot males were relatively cooperative and non-aggressive compared to most other cetacean species.

MODERN PODS

Pilots Only

Perhaps because of their matriarchal pod structure or perhaps because they are innately cooperative, pilot whales are some of the most peaceful and easy-going of all the cetaceans. Unlike other cetacean species, they still tend to make elder females their leaders and live in the same mixed-gender groups all their lives. For this reason, pilots obviously have a great deal more familial loyalty and connection than even belugas.

The family groups are comprised of a few mothers, often sisters, and their calves, who may range from newborns to adults. Pilots still have no relationship with their fathers, who usually come from distant pods. However, young adults have begun a new tradition of seeking out their fathers at some point in their lives, often as part of a search for identity as they cross into adulthood. On these occasions, fathers usually give their sons or daughters expensive gifts like cherished heirlooms or accessories for their CICADAs. They also provide whatever career advice,

ORCA AND PILOT NAMES

Most killer whales prefer to be called orcas because of the violent connotations of their common name. Orcas will point out that all modern cetaceans are killers who hunt and eat prey to live. They choose to overlook the fact that only orcas once preyed on many other species of cetaceans, including the massive great whales. In addition, they hate the nicknames “blackfish” and “swordfish,” derived from their glossy dominant color and prominent dorsal fin. These terms can be used in a teasing way, but any expression that refers to cetaceans as “fish” is usually derogatory.

Even worse, the term “blackfish” is also used to refer to pilot whales because of their uniform dark color. Both pilots and orcas find it incredibly offensive not only to be called an insulting name, but also to have it be applied to another species, as if all cetaceans were the same as both fish and each other. Sometimes humans shorten the word “orca” to “orc,” which neither humans nor cetes seem to consider objectionable. Despite the literary use of the word as a name for evil and violent creatures of fantasy story fame, orcas apparently fail to make the connection or, for some obscure cetacean reason, simply do not find it offensive.

contacts, and influence they can before sending them on their way. There is seldom an expectation of, or in most cases even a desire for, further contact.

As the family pods grow and elder females die, pilot pods sometimes divide. In these cases, the new generation of leaders divides the pod members into two or more smaller pods. Often the older males take this opportunity to form separate and permanent, male-only groups. The males that remain behind take roles in raising older calves, helping to train them for adulthood and careers while serving as role models for male behavior.

Mixed Groups

Because they are highly social and therefore cooperative, pilots do very well in mixed groups. They do not represent a threat to competitive and aggressive males and so are easily accepted and eventually valued for their calm, steady natures. With cooperative, soft-spoken females they are respectful and attentive, and with impetuous juveniles they are tolerant and understanding. They are rarely leaders in such groups, but make excellent employees, arbitrators, field technicians, and military support staff.

ORCA

ORCINUS ORCA, ALSO CALLED KILLER WHALES, BLACKFISH, AND SWORDFISH

ANATOMY

The orca is considerably larger than all other modern cetaceans, with males typically measuring 7–8 meters when full grown—twice as long as a bottlenose and nearly four times as long as a common dolphin. Males weigh between 3,500 and 5,500 kilograms. Females are significantly smaller, measuring five to 7 meters in length and weighing 1,500 to 3,500 kilograms.

Even discounting their size, orcas’ unique coloration makes them easily identifiable. Their backs and sides are a glossy black, broken only by a large white spot on the sides of their heads and a swoop-

ing white swath that begins at their chins, narrows along their bellies, then widens and forks at the tail. Most also have a grayish, variably sized saddle just behind their dorsal fin. Orcas’ heads are rounded, lacking the jutting beak characteristic of dolphins.

These giants have round, paddle-like pectoral fins up to 2 meters long and a meter wide, and their broad, notched tail flukes often can measure almost 3 meters from tip to tip. The upright, triangular dorsal fin can reach a height of nearly 2 meters in males but is somewhat smaller in females. Orcas have significantly fewer teeth than dolphins, averaging only 50. These teeth are considerably bigger, though, measuring 7.5 centimeters long and 2.5 centimeters in basal circumference. They too are conical, designed for grabbing and tearing, not chewing.

LIFESPAN

Modern orcas, like their primal ancestors, are long lived, though there is a notable disparity between male and female lifespans. Modern female orcas typically survive for 90 years as opposed to an average of only 50 years for males. Both genders can live indefinitely with regular longevity treatments.

SWIMMING AND DIVING

Orcas are quite acrobatic despite their impressive bulk, able to tailwalk and leap from the water. They can swim up to 50 kilometers per hour but usually travel about 3–10 kilometers per hour. They can cover a maximum of 300 kilometers a day. Orcas make longer and deeper average dives than dolphins, typically diving 30–60 meters for 4–5 minutes at a time, but their maximum limits are only 300 meters for 20 minutes.

REPRODUCTION

Females carry their young for a 16 month gestation period and suckle their calves for at least 18 months. They only give birth every 2 to 14 years, producing calves that measure 2 to 3 meters at birth. Orca calves are slower to develop than calves of other species, reaching physical maturity only after 10 to 15 years. They remain with their mothers until they reach sexual maturity, usually at 15 to 20 years of age.

DIET

Orcas are big eaters, consuming far more food than any other cetacean species. They require an average of 100–150 kilograms of meat each day, or 3–4% of their body weight. The largest males may eat up to 200 kilograms of food in a single day.

PRIMAL BEHAVIOR

Primal orcas were aggressive hunters, working together in groups of two to twenty to take on great whales several times their size. They also ate fish, sharks, dolphins, porpoises, seals, and sea lions. This legacy of having once fed on fellow cetaceans causes a certain unspoken tension in orcas' dealings with modern, genlifted cetes. Modern orcas, of course, suppress any lingering appetites they may have for fellow cetaceans, though they are still intrepid hunters, occasionally taking on powerful and dangerous prey like mojos and lesser whites.

Primal orcas were more widespread than bottlenoses, living not only in tropical and temperate but also polar waters, especially cold coastal areas where prey was abundant. Primal orcas lived in one of two types of societies: resident and transient groups. Resident orcas were female-dominated, highly cooperative, peaceable cetaceans that lived in the same place their whole lives. Transient orcas lived in smaller, mostly male pods that traveled widely and hunted cooperatively. These aggressive, insular, and ferocious groups are probably the origin of the name killer whale.

MODERN BEHAVIOR

Even in their genlifted state, orcas are simply not as intelligent as the other modern cetaceans. They are slower to solve problems than the dolphins and less creative and artistic than the bels. They are more like pilots in their intellectual capacities, also plodding and methodical thinkers. However, orcas are endowed with the most acute instincts of all the cetaceans, able to respond with incredible quickness and decisiveness when needed. They are also brilliant in their ability to work together in teams, both in hunting and in other endeavors, able to anticipate their podmates' next moves and coordinate their responses with incredible precision.

PRIMAL PODS

Resident orcas lived in matriarchal pods comprised of fifty or more usually related individuals. Females typically outnumbered males in these pods. Pods were usually led by an aged matriarch and populated by her calves and grandcalves along with some of the matriarch's siblings and their descendants. As groups became too big, they split, and if they became too small, they merged; but generally these orcas lived their whole lives in one region with a great deal of territorial security and continuity.

Transient orca pods were much smaller, containing just a few individuals. These groups were usually male with only an occasional female member. They were structured in a clear hierarchy based on physical prowess. These wandering groups were generally solitary in nature but would sometimes join resident pods for the mating season.

MODERN PODS

Orcas Only

Modern orcas still fall into the same two pod types: resident and transient. Modern resident orcas are conservative, unambitious whales happy to continue the same lifestyle as their primal ancestors even in their genlifted state. The most unorthodox or independent action a resident orca might take would be to pursue an education or take an Incorporate day job, but without ever leaving his home pod. As a result, few resident orcas ever make their way to Poseidon.

These groups are still dominated by females. In the large, extended family groups of resident orcas, cooperative and non-aggressive behaviors are essential, and most residents have been trained into these habits. While many cetaceans still struggle with an inborn fear of killer whales, Earth-born cetes find resident orcas non-threatening and easy to form friendships with. Unlike resident orcas, those of transient stock are ambitious and eager for risky adventure. They still form small, exclusive groups, but have largely given up their primitive lifestyle. Most have turned their energies toward pursuing adventure in human career fields. They are almost exclusively the type of orcas who travel to Poseidon.

Transient orcas value valor, loyalty, and insularity to the group. Thus they are often anti-social to other cetaceans and humans unless they have a forced need to be otherwise. However, within the group the teamwork ethic is paramount, and these pods are characterized by the same intense loyalty as bottlenose fraternities.

Modern transient orca culture is divided between traditionalists who only value strength, toughness, and courage, and progressives who also recognize the worth of intelligence, experience, and cooperation. While males still compete physically for leadership in the group, in the more progressive pods other qualities are also valued. These vary depending on the career field of the group but can include basic intelligence, alertness, experience, navigational ability, and technical knowledge. Generally, these two personality types are attracted to different career fields, but when both sorts find themselves forced to work together conflict is common.

Resident Pods on Poseidon

The females who join transient groups sometimes have a hard time finding acceptance among their

larger, more powerful peers. Traditionally, transient females were infertile, post-menopausal, or otherwise calfless, and usually joined transient pods only temporarily. However, at the time of the Athena Project, the United Nations Space Agency needed fertile mothers with transient personalities so they actively recruited adventuresome young females for the project. As a result, many transient males were bitter that their female counterparts had an easier time earning slots on the colony mission.

At first, male orcas accepted for the project derided these females as babymakers, with little else to offer the team. Once on Poseidon, however, the females' superior teamwork made them undeniably effective. The small population, the labor-intensive projects, and the inherent dangers of the alien planet required greater cooperation not only with members of one's own pod, but also with the larger, human community. This forced a cultural shift to which males had a hard time adjusting. Females came to be valued for their ability to smooth over differences and promote cooperation, and the entire culture of the male-dominated pods subtly began to change. When orcas first came to Poseidon, many females, indignant at their treatment by the males, formed resident pods. Other females joined these groups to deliver their calves and then sometimes left them with resident mothers to be raised. Many of these resident pods survived to Recontact and are a growing demographic within an orca population dominated by transients.

The most significant cultural development to take place among orcas since their modification is the growing institution of active fatherhood. The phenomenon first began among resident orca populations on Earth. Though their lifestyle changed little after genlift, resident males for the first time began to spend time with their young, telling them stories about the history of their species and teaching them how to hunt, mate, and echolocate. However, most fathers came from transient rather than resident stock, and the practice of male parenting only became established once these traveling orcas began to return to the same resident pods spring after spring to visit their growing young. With the shift in transient orca culture from insularity to cooperation in the early days of the Athena Project, males on Poseidon became increasingly attentive fathers. Orcas there tended to pay most attention to their sons, often grooming them to take a place in their own transient pod once they came of age.

Juveniles raised in resident groups still generally stay with their mother's pod until sexual maturity, as in the primal past. Orcas are by far the slowest of all modern cetaceans to develop. It takes them 15 to 20 years to mature and leave their mother's pod. This long association leads to a stronger lifelong bond between calves and their mothers and aunts as compared to other cetaceans, who sometimes have little or no adult contact with the females who raised them. This practice tends to have one of two opposing effects on orcas. Either they feel suffocated by the long association with the mother's pod and react by becoming extremely independent as they reach maturity, or they have a difficult time adjusting to life on their own after so long under the protection and guidance of adults.

Females react most often in the first way, as they reach maturity several years before their brothers and possess the confidence gained from seeing so many females in positions of authority. The males often react the second way as they are used to female dominance and tentative about taking charge of their own lives. The increasing involvement of fathers in their sons' lives is changing this trend, though. A new pod structure seems to be evolving among some of the more independent calves, especially males. They have begun breaking away before they reach sexual maturity to form pods of juveniles similar to fin fraternities. In recent years, the practice of raising calves, especially sons, within the male groups has become more common. Mothers are relying more on the assistance of their male podmates to care for their calves, an outgrowth of the increasing male interest in active fatherhood. These competitive and at times heartless killers are proving remarkably tender and nurturing parents. Perhaps, in their genlifted state, this emotional outlet helps mitigate the ferocity and ruthlessness they sometimes still display.

Occasionally orcas of transient stock are born with resident personalities. They are just not motivated by aggressive authority and wish to live gentler, cooperative lives. This is seldom an issue for females, who have the option of joining resident pods, but it can be a serious problem for young males facing intense pressure to be like their fathers. These individuals often have a hard time grappling with their sense of identity and sometimes leave the orca community altogether, finding more fitting homes among other like-minded cetaceans, or even humans.

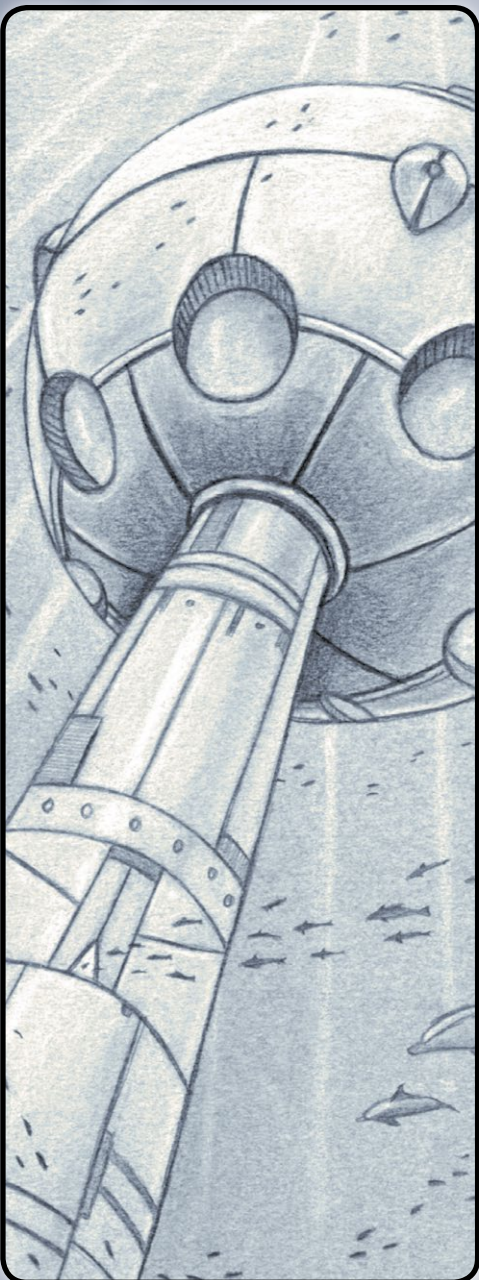
Mixed Groups

Orcas are intimidating creatures in mixed groups. Their physical presence alone is overwhelming to cetaceans and humans alike, especially when humans are in the water with them. Moreover, other cetaceans still sometimes struggle with an instinctual fear of orcas, though most will not admit it.

Despite the recent softening of male stereotypes, transient orca culture is much more blunt, violent, emotionless, and competitive than most other cetaceans are used to. Also, adult male orcas can sometimes behave with inordinate dominance in mixed groups, especially over females and any of the smaller species, including humans. Therefore a great deal of adjustment is required on both sides if transient orcas are to work effectively with other species.

Younger orcas and females tend to have fewer problems transitioning into mixed groups. If anything, they sometimes need to learn to speak and act more assertively. If they come from resident, female-led groups, they are used to being given a turn to speak without interruption and sometimes have trouble contributing to more disorderly and contentious debates.

CHAPTER 3: CULTURE



COMMUNICATION

The ability to communicate abstractly with humans is the hallmark of genlift, and a defining aspect of both cetacean intelligence and the relationship between whale and human culture. Even in 2199, the mechanisms and nuances of cetacean language are still being studied, but from the start it was clear that whales were not only able communicators but that their unique language was in many ways superior to human speech.

COMMUNICATING WITH OTHER CETACEANS

Cete language relies on a sort of reverse echolocation called “composing.” Instead of transmitting sound pulses and listening for their echoes, composing cetes send out pulses that mimic the natural echoes associated with the objects and circumstances about which they are speaking. Listeners process these pulses into sound pictures in the same way they do naturally created echoes.

Though primal cetaceans appear to have used a rudimentary and literal form of composing, modern cetes have developed the ability into a genuine language of unmatched precision and informative content. Human language uses artificial, symbolic sounds as its words, whereas cetacean language uses natural, absolute sounds inherent to the subject matter. Thus, there is no translation and consequent loss or subjective confusion of the intended meaning.

Composing also relays information far faster and with greater detail as the artificial sound pictures contain far more data than any equivalent number of human words could convey. Though actual estimates vary, the information content of cete composition averages about 10 times the information load of human speech. This means that the content of a 10-minute human conversation could be communicated between cetes in one minute. Many technological and scientific terms have no sound picture equivalents and limit the speed of technical communication. Cete conversations involving math or abstract science pass information at the reduced rate of only two units to one.

Composing is often supplemented by other vocalizations like whistles and pulsed calls known as flat/speak or “cuing.” These utterances are analogous to human language in that each different sound is abstractly linked to its specific meaning. Cetaceans

compose and cue simultaneously, layering a sort of narrative on top of their sound pictures as a way of identifying and explaining them. In addition, cuing fills in details composing alone cannot convey, such as color, time, and mathematical concepts. Because composition is so efficient, cetaceans never developed cuing into a complete language. It exists only to reinforce sound pictures or as a limited substitute when composing is not possible.

Composition sound pictures are communicated as still images, but can come fast enough that the receiver is able to interpret them into something approximating a choppy holovid. Cuing fills in the gaps by explaining how different series of images relate to each other. Cuing is also the only part of whale language humans can understand, but even that comprehension is of limited value as cuing is the language’s lesser part and many of the sounds are inaudible to human ears.

Despite the incredible detail and immediacy, communicating through sound pictures does have limitations. A certain amount of image blurring is inevitable when one cete sends an echo to another. Cetaceans are not as physically adept at creating complex echoes as they are at receiving them. Composing is a uniquely cetacean talent and some are better than others are. Additionally, communicating whales are typically afloat and thus never completely still. The Doppler effect tends to stretch or compress the sound in unpredictable ways and the listener must attempt to compensate for this. Composing becomes more and more difficult as the difference in the speeds of the speaker and listener increases. To model this effect, a moving cete must make a successful Echolocation roll to understand incoming composition. For every 1 kilometer per hour difference in the relative motion of the speaker and the listener, the roll must be made at a cumulative -1 penalty. Moving cetes can always communicate through cuing, but the information content of these sounds is distinctly limited and typically prevents the communication of abstract detail.

Composing is most useful for real-world descriptions, and becomes less effective in technical, abstract, or human-centric conversations. In an effort to develop broader applicability, cetaceans have begun to modify how they use composition. Some technical or human words are simply cued. In other

cases, cetacean language is beginning to rely on metaphor to communicate unfamiliar or abstract concepts. For instance, bread is roughly translated into composition as squid/dry/not hunted. A cuing sound meaning “same” is used to identify when such a metaphorical sound picture is being used in conversation. The phases are analogous to Chinese characters in which several pictographs are embedded in each other to form a single unique word. Though many of these cetacean compositional equivalents sound ridiculous when translated literally, they are slowly becoming a standardized part of the language.

Regional Dialects

Variations in dialect are even more obvious in cetacean communication than in human language. Those with a trained ear can readily identify a cete’s geographical background by his use of standardized images and his cuing intonation. These differences are impossible for humans to perceive, but cetaceans can typically use them to accurately place the facility where a cete’s ancestors were genlifted, the region on Earth he or his family came from, and the areas on Poseidon where the stranger has lived. Many humans find the ability astonishing while others think it is just another elaborate cetacean joke.

Beluga

As a consequence of their initial isolation bels developed their own unique language. The language inherently depends on composing, so the mechanics and the resultant vocabulary are similar due to their objective, externalized nature, but the syntax and the cuing components are distinct. The result is a sort of patois that hints at familiar images and ideas for non-bel listeners but ultimately confounds them. Belugas consider it a point of pride and a cultural obligation to be able to speak their ancestral language and are diligent about teaching it to their young. It is extremely rare for non-bels to learn the bel tongue and most belugas prize the privacy this lends their conversations in mixed cetacean company.

Song Circles

To facilitate communication in larger groups, cetaceans form song/circles when composing and listening. With only a few individuals, relative positioning does not much matter. However, in larger groups the audience usually forms a loose ring and floats near the surface. The composer then drops below

the center of the circle, positions his body vertically, and composes upwards towards the ring. This distribution optimizes reception, allowing the listeners to hear the images with the least distortion. During a discussion or debate, a listener takes turns descending to the speaker’s position to offer comment, then rises to the surface again as another speaker takes his place. If whales were less orderly when talking in large groups, their conflicting sound pulses would soon fill the surrounding water with overlapping and cacophonous images that no one could comprehend.

COMMUNICATING WITH HUMANS

Most humans can neither understand nor create the sounds of cetacean communication, just as cetaceans cannot create most human sounds. However, whales easily learn to comprehend human language. Thus, humans can carry on a one-sided conversation with cetaceans with little trouble, but accommodations must be made if cetaceans are to talk back.

The easiest and most common solution is for the cetes to wear sonic trodes connected to a translator. This equipment converts cetacean communication into human speech. However, when this technology is not available, cetaceans can communicate with humans using Interspecies, a sophisticated language based on gestures and vocalizations. Every cetacean learns Interspecies Language, but humans often do not. The language is intuitive, though, and even if a human does not know Interspecies, he can often pick up on the meaning of simple messages using context and common sense.

Translators

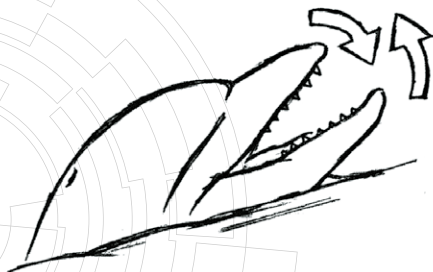
Most cetaceans on Poseidon wear sonic trodes with integrated translators. These not only convert a cetacean’s vocalizations into human language but also broadcast the conversion through integral speakers. As they are able to readily understand human speech, cetes typically use their hardware only for one-way translation. However, if a whale does not know a particular human language, with the appropriate software he can use the device to translate both ways with only a slight reduction in efficiency. Translator software for any language can easily be downloaded from CommCore for a nominal expense, and a cetacean’s ability to switch effortlessly from one language to another can be a significant advantage in certain situations.

Translation hardware usually contains integrated recording devices, and many cetes are in the habit of recording their conversations as a convenient matter of course. They do not usually store this data for more than a couple of days, but under the right circumstances these recordings are sometimes useful.

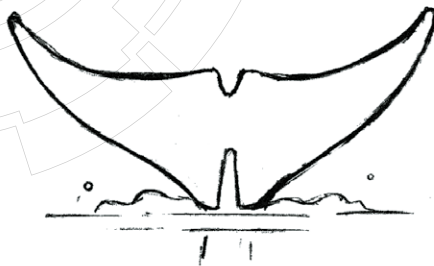
Though translation software is sophisticated, cetacean composition is a difficult medium and garbled translations still occur, sometimes with nonsensical and humorous results. Cetaceans hate to miss out on a joke, but it often takes a lot of explaining to make one understand why his human companions are laughing over some innocent or even serious comment. For instance, if a cete were asked how long he thought a storm would last, he might answer, "Night/today/big rain/fast/shoreward/sky/moon/water/reflect." However, instead of coming through his translator as, "Tonight the rain will pass and the clouds part to reveal the moon reflected on the water," the humans might hear, "Tonight I'll moon the rain, and the sky and water will reflect it." Whales have also been known to fake translator problems as a simple way to ignore humans with whom they do not wish to talk. They either intentionally garble the echolocation or alter the translation software. In more blatant and rude encounters cetes will simply act as though they have forgotten or turned off their translator.

Cetaceans can choose virtually any human voice for their translated speech. It might be male or female, accented or pure, smooth or squeaky, deep or high. Because cetaceans are not usually aware of the human cultural associations that certain voices carry, they sometimes make choices that seem incongruous with their personalities. For instance, a lumbering orca might pick a light, breathy voice, or a highly educated beluga might choose a voice with a tough, working-class accent. Even more disorienting is that whales often have several voices from which they choose for any given conversation. Some cetes continually change voices, while others use more than one in the same conversation or even the same sentence. Still others have begun using voices of human actors or characters from children's shows. Sometimes the choice of voice is simply a matter of oddball cete whim. More often, as humans that know whales well will affirm, the choice of voice is a subtle comment on the circumstances or the whale's feelings about the person with whom he is conversing.

Sample Interspecies Vocabulary



" I am very hungry "



" Leave me alone "



"Hunting predator is
threateningly close "

Interspecies Language

Interspecies Language, or Interspec (pronounced interspeak), was developed by Dr. Marcos Gottfried as part of the original genlift project. It combines spoken words, sounds, physical gestures, and body movement into a complete and functional cross-species language. Whales can understand human speech but cannot articulate most human words. Conversely, humans can speak clearly, but are physically incapable of distinguishing, or even hearing, most cetacean vocalizations. As a result, cetes must actually speak Interspecies, but humans need only understand it. All native whales and humans grow up fluent in Interspec, but newcomers find the language difficult to learn and are often at a disadvantage as a result. Most people who have been on the colony world or who have interacted with whales for any length of time pick up a few sounds and signs, and with effort can often work out basic meaning or intent. Naturally, several of the more colorful Interspec gestures and sounds have worked their way into everyday parlance.

Cetacean Use of Human Words

Cetaceans lack vocal cords and their tongues are inflexible, making most human speech impossible. Hard consonants and “s” sounds are especially difficult. However, cetaceans can modify their usual cuing sounds and control the flow of air to mimic a useful number of human words. To do so, cetes substitute some consonant sounds for others and rely mostly on vowels in a technique similar to that used by human ventriloquists. This sometimes makes the words hard to understand, and humans unfamiliar with the sounds are often at a loss. Most whales can effectively speak approximately 120 useful human words drawn from a variety of different languages for the ease with which the words can be spoken.

Though this vocabulary is limiting, cetaceans are clever about using other means of auditory and non-verbal communication. For instance, they can vary the tone and pitch of their whistles to indicate a question, call for attention, or express appreciation or dismay. To show amusement, they bark out classic dolphin chatter, which humans have always thought sounds like laughter. To display anger, they can clap their jaws loudly, and for agreement or dissension, they nod or shake their heads.

NAMING CONVENTIONS

SOCIAL NAMES

Whales have a different sense of self in relation to the world than humans do. As an outgrowth of this worldview, cetacean mothers do not name their calves. Cetes believe that to name others is to declare possession of them, to separate them from their places in the world—concepts whales find uncomfortable. Their sentient state and interaction with human culture, however, require cetes to have some form of identification that distinguishes individuals. To this end, cetaceans have established some basic naming conventions.

Young calves are usually called by some variant of their mother’s name, something like Dancer-calf, or perhaps Dancer-daughter or Small-dancer. When calves reach puberty or leave their mother’s pod to join juvenile groups, they then choose names of their own. These simple one-word public monikers are called social names. Social names are typically derived from some aspect of a given cetacean’s occupation or primary interests, such as Miner, Singer, or Traveler. Other names like Trumpet, Noon, and

Bone are similarly derived, but their significance is less apparent. Unfortunately, using common words as names results in a lot of overlap between different individuals and inevitable confusion for their human associates.

PERSONAL NAMES

Among their podmates cetaceans do not use these generic social names. A mother would never call her calf “Lunger-daughter” but instead uses a sound picture that defines a term of endearment specific to the calf such as Little/Water, Noisy/Paddler, or Quick/Leap. Everyone in the calf’s home pod usually adopts this name.

When the calf reaches independence, in addition to his social name, he chooses a personal name that reflects who or what he wants to be. This rite of passage is taken seriously, and a great deal of thought and consideration goes into the choice. For instance, a cetacean who wants to pursue the study of music might choose a personal name that translates from the sound picture as Rhythm of Waves.

One who wants to travel and explore might name himself Beyond Far Corals. Generally, the only ones who ever know a cetacean's personal name are his podmates and a very few close friends.

When humans hear translated personal names, they often fail to understand why cetaceans are so concerned about keeping them private. Humans have to consider the content-rich nature of cetacean sound pictures and realize that translations are always abbreviated distillations of what is actually being said. The detailed images associated with a personal name conjure up the kind of life or abilities a cetacean envisions for himself in a way that can only be effectively communicated through composing. For instance, a more telling translation of the name Beyond Far Corals might be "Swimming alone through dangerous waters with many hiding places for predators in a reef unlike any that a cetacean has seen before, I echolocate and sense something up ahead, but I am not afraid and swim on, determined to face whatever comes." In other words, when a cetacean tells someone else his personal name, he is sharing a heartfelt version of his hopes and dreams.

Among humans, the ultimate sign of intimacy is sexual contact. For cetaceans, it is the sharing of their personal names.

CHANGING NAMES

Throughout their lives, cetaceans will occasionally change their social names and sometimes even their personal names. Most often this happens when an individual changes jobs or makes a fundamental change in his personal goals. The same consideration goes into selecting a revised personal name as went into choosing the original. Cetaceans do not usually recognize birthdays, but they do hold simple celebrations with their closest friends to honor the taking of a new personal name.

Many cetes change their social names frequently, especially commons and fins. This casual renaming causes endless confusion among human associates and in official records. Consequently, on official documents, cetes are required to record their calf-names in addition to their complete social name histories in order to reduce misidentification.

COGNITION

BASIC WORLDVIEW

Cetaceans possess a holistic sense of self and do not seem to fully detach their own identities from the world around them. Cetes see all things as parts of a whole and genuinely feel they are linked to the water in which they swim, to the ecology in which they feed, and to the greater community of minds in which they live. They are less able and less concerned than humans about separating themselves into soul and body, past and present, logic and feeling, will and desire, and are comfortable with the overlap and integrated effect of these psychological components.

Some observers are fascinated by this philosophy and claim it is the result of the close link between the cetacean primal state and their recent sentience—an effect of the integration of their instinctual, pregenlift consciousness with their present cognitive abilities. Others claim it is simply new age Whale-song nonsense parading as a legitimized cultural worldview.

Regardless, this characterization of their worldview does explain a number of social and individual cetacean behaviors. The extreme dedication

and selflessness cetaceans show for podmates and friends may be a result of the blurred line between self and other. Their acceptance of death and violence, both in the act of hunting and in their own deaths or those of loved ones, seems linked to the roles they claim in the ecology. Their remarkably attuned intuition seems a further link to their environment. The lack of ownership cetaceans feel seems to justify their assertion that everything is connected, as does their seemingly contradictory attachment to their remotes.

DUALITY OF CONSCIOUSNESS

Cetaceans have a duality of consciousness that originally evolved to allow them to sleep with only one half of their brain at a time so they could continue to surface to breathe and remain wary of predators. This cognitive duality is still used for its primal purpose, but in their genlifted state whales have learned to put this duality to other uses as well.

Under normal circumstances cetaceans can split their attention between two distinctly different mental tasks at the same time without the same distraction and potential for error humans experience when

attempting this. These tasks may be mentally complex but must require a minimum of physical activity, and they may not involve the use of echolocation. Demanding physical activity and echolocation both require a cetacean's full attention. Such dual tasks might include conducting a general CommCore search while carrying on a conversation, operating a remote while watching a holoivid program, or listening to a lecture while writing email.

As detailed below, cetaceans are also able to tap their mental duality to effectively operate multiple remotes at the same time. This is a notable advantage for cetaceans as so much of their interaction with the human world depends on telepresence. It is also a definitive asset in tactical situations and the main reason that combat remotes in many military units are run by cetacean operators.

Another valuable aspect of dual consciousness is that it is more difficult to surprise a cetacean character than a human one. In their primal state, whales used their split attention in part to watch for predators while they slept, and this ability remains in their modern state. Sleeping cetaceans receive a +2 bonus to any Cognition rolls made against surprise, while conscious ones receive a +4 bonus.

SHORT-TERM MEMORY

Biologists once speculated that cetaceans' larger brains might provide them with superior cognitive abilities. Though genlift has proven that base whale and human intellects are comparable, there is one surprising cognitive advantage that has resulted from genlift—cetaceans have photographic short-term memories. Some scientists speculate that whale brain size and sleep patterns allow for more complex associations and longer conscious retention. Others suspect this mental trick is related to the cetacean brain's ability to process sound pictures and the more visual nature of this form of mental data.

Regardless of the actual physiology of the phenomenon, cetacean characters are able to accurately recall any complex information they have experienced—visual, auditory, or echo based—for up to 60 hours. Thereafter, as part of the transition from short- to long-term memory, the information degrades to a human level of recall. In game terms, whale characters receive a +3 bonus to any Cognition rolls made to recall the exact details of information or events experienced within the most recent 60 hour period.

INTUITION

Cetaceans' proximity to their primal state, their inherently superior awareness, and their immersion in the natural world conspire to provide whales with an uncanny and surprisingly dependable intuition. This ability does not allow them to actually see the future or read minds, though in the end it often seems that this is just what they have done. Instead, their acute sensitivity to their surroundings and the subtle cues they unconsciously pick up are sometimes processed into a spontaneous understanding that to humans often seems to verge on clairvoyance.

To express this superior intuition in game terms, once per session Game Masters should offer cetacean characters one Psyche roll regarding relevant information about which they would otherwise be unaware. Such information may consist of a premonition of imminent danger, a clue to a specific mystery, or an idea about a hidden plot connection. When to call for the roll and exactly what to tell a player is up to the discretion of the Game Master. A successful roll means that the character has made a leap of intuition based on unconscious clues and come to a correct and relevant conclusion. The information revealed must relate directly to the character's recent experiences and rely, however tenuously, on natural or associative cues to which the character was exposed.

Their superior sensitivity to environmental cues also offers cetaceans an intuitive sense of direction and weather change. Though not as unerring as GPS or even a good compass, whale directional sense is sufficient for regional and long-distance navigation. And although cetaceans cannot predict the weather more than a couple of days out, and are usually at a loss to explain how they know, their impression of what and how extreme the change will be is uncannily accurate. To use these abilities a cetacean player makes an Cognition roll with a +4 bonus. If the role is successful, the character is able to accurately determine compass directions or predict weather changes over the next 60 hours.

To accurately track his course of travel, a whale character must first know his starting position. For each hundred kilometers of travel, the player must make an Cognition roll. Success means the character is able to locate his position within a few kilometers. Failure means the character has lost track of his position and is essentially lost. Each roll after the first is made at a cumulative -1 penalty due to factors such

as inattention, fatigue, and magnetic anomalies. Each time the character identifies a known landmark, is given an accurate position via a GPS, or is otherwise able to determine his exact location, the distance penalty on his Cognition tracking rolls is reset to 0.

Cetaceans are able to combine their acute sensitivity to environmental cues and their intimate knowledge of animal behavior into an effective sort of animal empathy. This sense allows them to anticipate the behavior of prey or the intent of potential predators, and gives whales a tangible connection to the natural world envied by biologists, ecologists, and new age animal lovers. Use of this ability requires a successful Intuition roll that provides the character with a general sense of the target animal's emotional state and intent. Because cetaceans often struggle with understanding human motivation, this empathic ability has proved useless in dealing with their terrestrial counterparts.

DECISION AND ACTION

Cetaceans do not distinguish between making a decision and acting on it. Cetaceans believe “decision is action” and “hesitation wastes opportunity.” Cetaceans feel humans who claim to have made up their minds but have not yet taken action have not really decided anything. As a result of this mentality, cetaceans often make human associates feel rushed or out of control. Some cetaceans have learned to accommodate the human need for reflection before action by distracting themselves with energetic but seemingly unrelated activity. As a consequence, humans sometimes mistakenly view cetes as nervous or hyperactive.

It is important to note that even though cetes act quickly once a decision has been made, the decision on which they are acting is not necessarily made in haste. Cetes do consider important decisions and mull over their options at length. They apply logic and experience in much the same way as humans. The difference is that once a conclusion is reached, whales tend to act on the outcome immediately. This is the reason that cetes sometimes appear flighty, unexpectedly quitting a job in the middle of the workday, leaving to find a new pod without warning, or changing names for no apparent reason.

EMOTIONS

Cetaceans experience the same emotions as humans—fear, love, hate, joy, sadness, anger; how-

ever, whales feel these emotions with unique intensity but for characteristically shorter duration. When a podmate dies, cetes might react with violent, uncontrolled anger or frenzied, inconsolable grief that is frightening in its intensity. Yet after a few hours or maybe a day of this intense display, the grieving cete is completely calm and genuinely accepting of the loss. A perceived slight, no matter how trivial, might enrage a whale to the point of violence, terrifying human friends. After only a few minutes, however, the offended cete is sometimes calm again, though he may subsequently shun the offender.

Cetaceans feel love but not usually in the same romantic way that humans do. Instead of seeking a single romantic partner, cetaceans usually make that same singular bond with their podmates as a group. Committing to love one's podmates is more like imprinting on them, a more absolute and instinctual feeling. Additionally, cetaceans tend not to analyze love—or any other feelings for that matter—but simply accept it and integrate it into their experiences.

SENSE OF OWNERSHIP

Since everything cetaceans need to survive is provided by the surrounding environment, theirs for the taking, it is no wonder that they have evolved a



sense of ownership radically different from that of humans. Living, sleeping, and eating in the water eliminate the need for most material goods, and whales see most objects as only temporary tools or necessities. Most durable goods owned by members of a pod are treated as communal property, and in a mixed human-cetacean workplace this can cause problems. Cetaceans will borrow tools and other equipment without asking and then pass them on to whoever needs them next. The concept of stealing is not unknown to them, but cetes only consider it theft if they intend to keep whatever they have taken. Of course, cetaceans have learned to live by human legal codes but are not culturally committed to this behavior. In mixed communities, especially mixed pods and native settlements, humans usually find it easier to adopt the cetacean-like communal attitude toward ownership.

To humans that do not understand, cetaceans show a contradictory and absolute sense of ownership for their remotes. They appear irrationally unwilling to share them and are uncharacteristically sensitive about their condition and maintenance. The reason for this contrasting behavior is a subtle but significant one. From the time whales are young, they interact with the greater world through their remotes. They are educated through them and they make human friends via the devices. They manipulate technology and typically work by telepresence. They maintain contact with the dryside world through remotes and depend on them for access to ComCore. Cetaceans are empowered by their remote technology and depend on it to take advantage of their sentence. As a result, the division between a whale's sense of self and his remote is essentially nonexistent. Cetes are psychologically dependent on their remotes and therefore see them as extensions of their own bodies and personalities.

This is why cetes are insulted when their remotes are ignored in conversations or handled without permission. This is also why they are so protective of the devices and act violently if their remotes are attacked. A cetacean perceives an attack against his remote as an assault on his own body. To the cetacean mind, attacking someone who has damaged your remote is simply self-defense. Expressed in game terms, this means a player running a cetacean character should consider placing a remote in harm's way to be the same thing as swimming his actual character into the line-of-fire.

ETHICS

Cetacean ethics are defined by their primary cultural values: loyalty, cooperation, and survival. Their sense of right and wrong is drawn not from what is fair or best for the individual but from what is best for the pod, and in many ways the species itself. Their ingrained practice of reciprocal altruism and their willingness to sacrifice anything for the good of their pod typifies this ethic.

Cetes are not inherently blood thirsty or aggressive as many humans think. They are, however, able to act with incredible violence in defense of their own and lack even the slightest remorse if they feel their actions are justified. As predators, cetaceans typically cause bloodshed and death on a daily basis, and psychologists believe this translates into the calm pragmatism with which cetes typically carry out violent acts. Though cetes seldom resort to lethal violence unless threatened with the same, there are times when their intense emotions lead to what most humans would consider inappropriately violent responses. Among their own kind this violent sort of confrontation is common, but among humans whales are careful to follow established legal codes to avoid potential prosecution.

HUMOR

One of the most dramatic cognitive changes in cetaceans since the genlift is their new found facility for abstraction. In their primal state, dolphins were capable of sharing complex sound pictures with one another through echolocation as a way of reproducing their environment. This mode of communication enabled sophisticated social structures, coordinated defenses, and elegant mating rituals, but it never transcended the literal. That all changed in 2042. With the gift of human intelligence, these sound pictures began to convey a multiplicity of meaning with a single image. No longer was the image of a shark skulking around a reef simply an alert to others in the pod: now the same image could indicate a spy within the community or an invitation to sport. Given their love for jest, it did not take long for dolphins to find the humor in juxtaposing contrary meanings with very similar looking sound pictures. Thus cetaceans discovered the pun.

Conversing with humans offered further opportunity for fins to revel in wordplay. Unlike cetacean communication, which produces a facsimile of sensory information, human speech is constructed from

a bank of arbitrary phonemes that only represent real objects, actions, and ideas. The words themselves have no inherent meaning and only through convention and context are they understood. The potential for miscommunication is therefore significantly higher than it is for echoed sound pictures. Bottlenose dolphins in particular take great pleasure in this perceived weakness of humans by inserting as many puns into their dialogues with humans as possible. It is even seen as a point of pride to drive humans to annoyance with this practice. There is some conjecture among cetacean sociologists that fins' fascination with punning among humans is actually a kind of linguistic rebellion against their benefactors, a means of devaluing the so-called gift of human language.

Their appreciation for the absurd has helped many cetaceans develop an even more sophisticated understanding of irony than most humans possess. Given the diversity of species, however, it is not surprising that different cetaceans find varied ways to express their wit. While punning wordplay is a favorite pastime among fins, common dolphins prefer to deride humans through impersonation. From the ambiguous rhetoric of politicians to the verbosity of ivory tower academics, commons love to amuse each other with ridiculous fragments of speech they have overheard. Some take it a step further, melding sesquipedalian diction and prolix syntax into a farago of abstruse glossolalia.

Pilot whales are less aggressive in their humor. They are every bit as capable as the next cetacean of mocking the shortcomings of humans or of each other, but owing to their famous timidity and a distaste for confrontation, pilots generally prefer to direct their wit back at themselves. They have developed a rich, if young, tradition of self-deprecation that seems to ingratiate them to other cetaceans. Pilot

humor combines a knack for understatement and hyperbolic apology with near perfect comic timing. Of all the genlifted species, pilots have the most success making humans laugh.

It is often said that orcas are humorless. While it is true that they rarely evince anything remotely resembling laughter, some actually have a rather sardonic wit. Dour to a fault, the species once referred to as killer whales are often too intimidating for others to appreciate their sarcasm. It is not uncommon for an orca to kid a dolphin about rending him in two just to pass the time; nor would it be out of character to ask a human swimmer whether he thinks he could fit his whole body inside the whale's mouth. Cetologists are not entirely certain such statements are meant to be taken ironically. Some see them as evidence of a deliciously dry sense of humor while others argue that their sarcasm is just another mode of intimidation.

Perhaps the most savvy use of irony by any dolphin or whale is found in the political satire of the beluga. While all cetaceans are aware of and criticize human hypocrisy, bels seem the most interested in calling attention to it publicly. Through ironic narrative, sculpture, and painting, they mock all things absurd in hopes of changing public policy in favor of cetacean and native rights. Many belugas have found an outlet for their commentary on CommCore, becoming some of the most vocal advocates for change on Poseidon. Their work tends toward serious and difficult issues that often make other cetaceans, particularly fins and commons, uncomfortable. But whatever rifts they have opened within the cetacean community, beluga satirists have garnered considerable respect and praise from the more liberal factions of the human population and are beginning to be compared with the likes of Jonathon Swift and Mark Twain.

THE CHURCH OF WHALESONG THEOGONY

The Church of Whalesong Theogony is not really a church at all, and the Whalesong resembles a religion only superficially. In the early days of genlift, it came to be called a "church" through the misconceptions of human observers when humans still presumed that cetacean culture would mirror human models. Cetaceans did not then know or care enough to correct the misconception and so the term "church" has remained attached to the insti-

tution ever since. In cetacean language, the movement is more accurately called together/remember/awake/breathing.

The Church centers around the Whalesong Epic, a long oral history of stylized sound plays established by the first generation of genlifted cetaceans. The Church has continually performed, revised, added to, discussed, and philosophized over these songs ever since.

ORIGIN OF THE SONG

The Whalesong itself began as an oral history shared among cetaceans soon after genlift. The first composer was one of the earliest cetaceans to be modified, a dolphin who came to be known as Prime Singer. Not long after being genlifted, she began performing a series of sound picture stories that she called Whalesong. She was older than most other cetaceans at the time of genlift and claimed to have known the great whales while in her primal state. Prime Singer said the songs were a direct translation of the stories and poems the great whales shared with her before they died. The songs tell the history of the world from the whales' point of view, stories about the formation of a planet of dry land, the great rain that filled it with water, the emergence of whales and other forms of life, and the accomplishments of great heroes. Other genlifted cetaceans quickly embraced the history and began repeating and elaborating on the songs themselves.

Gottfried was extremely skeptical about Prime Singer's claims, saying it was more likely that the stories she believed she had been told were merely hallucinations resulting from the genlifting process. Other modified cetaceans either staunchly backed her claims or maintained discrete silence on the issue, but almost all of them seemed to find great meaning and comfort in the sound poetry she created.

Human cetologists believed the Whalesong Epic was essentially a glorification of primal cetacean behaviors such as mating, birthing, diving, and hunting. They theorized that the Epic and Church grew out of the subconscious need to legitimize the instinctual urges that lingered in cetaceans' new consciousness and the collective desire to claim some sort of cultural heritage. The newly sentient creatures needed some way to bridge the gap between their primal and modern selves, and they accomplished this by creating a mythos that linked their wild past to their civilized present. Regardless of its true origins, the Whalesong quickly became ingrained in the nascent cetacean culture as more cetaceans were genlifted. Today, the Whalesong and its trappings are an integral part of cetacean culture and their most significant and influential social institution.

Cetaceans do not choose whether or not to belong to the Church, as it is not a belief system like most human religions. It can be hard for humans to understand, but while individual cetaceans may

be involved with Church activities to a greater or lesser degree, almost every cetacean would say he is an integral part of the Whalesong itself. Today, the Church has grown to include congregations in almost every settlement where cetaceans are found. Though the Whalesong started on Earth, its strength now resides on Poseidon where cetacean culture has come into its own.

WHALESONGS

Purists feel that Prime Singer's first songs in their original versions are the only true Whalesong. However, most cetaceans agree that adding to and elaborating on the original stories is what makes the Whalesong current and meaningful. In the last 150 years, the Whalesong has grown to include many thousands of songs telling of both the distant past and more recent history, including the death of the great whales, genlift, the founding of Hydrospace, the turmoil of the Blight, and life on Poseidon. Leaders in the Church say that it is all the songs together that make the Great Current that flows from the distant past to the present day.

One of the key themes of the Whalesong is its constant warning against the threat of extinction. This threat was palpable at the time of genlift, and fear of extinction is forever ingrained in cetacean culture as a result. Consequently, much of the Whalesong is a mandate to survive and to aid in the survival of others. There are passages that glorify reproduction and long life and newer sections extolling the virtues of longevity therapy. Together these songs manifest the cetacean obsession with extinction and their cultural impetus to survive. The Whalesong also serves to commemorate the species of cetaceans and other marine organisms that have not survived. Humans have long considered literature a form of immortality, and the Whalesong is a similar sort of memorial. Because cetacean language, and therefore Whalesong poetry, is so content rich, it allows the great whales, manatees, sea otters, and other lost species a symbolic life in the minds of extant cetaceans. As a body of work that cetes everywhere memorize and perform, the Whalesong serves as a vast shared memory constantly explored and recreated by all whales. Such songs are important parts of the Gone/Forever celebrations.

Some of the most traditional and popular songs feature the exploits of archetypal heroes such as Sounder the Great Hunter, who ate only great white

sharks, or Mother, who birthed 1,000 calves and raised another 1,000 orphans to adulthood. Such stories are diverse, but each captures some key element of the Whalesong mythos in a proverbial way and passes its lessons on to the next generation.

Newer hero stories often start as retellings of actual events that are exaggerated and mythologized as they are retold. For instance, a few years ago an orca named Timer living off Prime Meridian charged a lesser white to save a member of his pod and was badly mauled. The local church raised the money for surgery and regenerative therapy and he is now fine. However, the story captured a central tenet of the Epic and the song commemorating the event quickly grew in popularity. Over time, composers

have modified the song until now many congregations hear of Tiny, the orca calf who charged a greater white, saving his entire pod at the cost of his own life.

Some newer classes of songs do not tell of lost species, important lessons, or great heroes but simply record daily life on Poseidon. These songs are less archetypal or poignant than others, but many have become popular on Earth because they are so evocative of the promised land that is the colony world.

THE TENET OF SURVIVAL

Unlike most human religions, the Church of the Whalesong does not proclaim faith in a higher power; and though it is most certainly a spiritual belief system, it is by no means a supernatural one.

CULT OF PREDATION

Within any movement there are some individuals that are considered radicals or extremists, and Whalesong Theogony is no different. Within the Church, however, there is one group that redefines the term fanatical, taking the movement's survival ethic to a deadly extreme.

The Cult of Predation is a secret society that quietly recruits its members from congregations around Poseidon. It is uncertain who founded the group, but tradition claims one of the first cete newcomers, a bel named Tooth, began the practice. The members of the Cult keep in contact with each other through subtle communications, seldom actually visiting in person. They hold a unique sort of loyalty to the group, one that for most even transcends their responsibilities to their individual pods. New members are observed, sometimes for years, and carefully groomed before being asked to join. Only a handful are selected each year, and only after the rest of the Cult is satisfied they will make fitting additions. There are currently only 46 members planetwide, mostly fins, orcas, and commons. There are six bels and only one pilot, and they are all nominally lead by an orca they refer to simply as the Tooth.

Once per year all the members of the Cult gather together at some carefully chosen location on the very edge of the frontier. Here they participate in long recitations of the most traditional Whalesong excerpts, primarily the unadorned songs of Prime Singer. They discuss insights and search for deeper meaning, communing with each other and the wild ocean for several days. Then, near the end of their retreat, the entire group heads out in search of one or more of Poseidon's more dangerous predators: stone snakes, lesser and greater whites, or pseudoeels. The group's intent is to incite a dangerous encounter with such predators in a uniquely cetacean celebration of the central tenet of the Whalesong—survival.

The group sometimes has to go through several encounters until they get what they are after. The cetes deliberately antagonize the predator and repeatedly place themselves in harm's way to invoke attacks. This dangerous game of cat and mouse is played out to the extremes of chance and exhaustion, not ending until at least one of the membership is actually killed by the predator. At this point the remainder of the group retreats and rejoins to cherish the rush of survival and remember their fallen comrade.

In a way that only cetes are truly able to understand, the membership believes the deadly encounter is the purest manifestation of the Whalesong survival ethic, a literal celebration of life and death. The members claim the sacrifice of one of their own represents the natural cycle of existence and that the triumph of survival gives those that live an appreciation for life no other experience could provide.

Essentially, the singular tenet of the Church is the primacy of survival or awake/breathing, as cetaceans call it. Most humans interpret awake/breathing as self-preservation, but the cetacean exaltation of survival is considerably broader than that. To whales, survival encompasses a hierarchy of responsibilities. Awake/breathing not only means preserving one's self, but also one's pod and species, all cetaceans, the oceans, and all forms of life within them. This ethic does not mean that every individual life is sacred—in fact it is an aspect of this very ethic that allows cetes to rejoice in the hunt and in vanquishing predators and enemies. Instead, it means that all creatures have a right to survive, and that all creatures play a role in the survival of others. The sanctity of this role is a major lesson of the Whalesong and is well established in cetacean society as a result.

This simple ethic has significant repercussions. Like humans, cetes have a strong self-preservation instinct. However, most whales will not hesitate to sacrifice themselves if it means saving the life of a podmate or friend. Some cetaceans seem almost eager to risk their lives for others, and humans often find this disregard for their own safety extremely reckless. This ethic has a less selfless, uglier side as well. For instance, cetaceans routinely kill weak or deformed calves at birth. They also allow and even encourage old or crippled cetaceans to wander into the wilds to die when they become a burden to the larger group. Humans see such cold sacrifices as cruel, but most cetes see them as necessary to enhance the group's ability to survive.

CHURCHES

Only the largest urban centers typically support structures dedicated solely to Church of the Whalesong activities. Most of these are relatively new and have been built with monies donated by congregation members and with grants from Hydrospan. Many follow the architectural precedent established by the Whalesong Church of Haven. Such structures are almost fully submerged bioplastic bubbles that narrow into stem-like tubes anchored to the ocean floor. The entrances are typically located on the shoreward side of the stem, well below the surface. Such structures are proof against the noise and congestion of most urbanized harbors and protection against even the worst of Poseidon's storms. They offer their congregations a sense of privacy and they support the increasingly elaborate infrastructure

many congregations use to record and broadcast the Whalesong. Some of the more affluent churches include polarized walls that can be cleared to let in sunlight and provide views of the surrounding water or darkened to maintain privacy.

Inside, the bubble is filled with water with room at the apex for a breathing space. Pumps continuously bring in water from outside and keep the breathing air fresh. Most churches lack adornment, and often the internal structural supports and fixtures are even exposed. Sophisticated sound equipment is typically installed below the surface where it can amplify the sound plays and record compositions. Larger churches may have small conestogas suspended near the centers of their structures to allow choir members and singers to take quick breaths during performances.

Most rural churches, which are the vast majority on Poseidon, make do without any buildings at all. Church members gather in specially chosen areas, such as calm bays or reef-protected atolls that are relatively safe from predators, strong currents, and large waves. Most cetaceans prefer meeting in open water instead of the confines of buildings. Most admit that church buildings are a necessary concession to urban crowding and feel natural settings and the proximity to the ocean's ecology and the elements are more harmonious with the principles of the Whalesong.

GATHERINGS

Many human visitors feel that Whalesong churches do not seem much like places of worship at all. Formal gatherings are frequent but typically do not follow a regular schedule. Informal gatherings happen almost around the clock in bigger churches, and at any given time the cetaceans inside may be found listening, composing, mating, giving birth, playing, meditating, sleeping, or even drifting free under the influence of various drugs. Formal gatherings occur for special holidays, traditional celebrations, as parts of major community events, or for the addition of new songs. They do not always follow a regular schedule, but word spreads quickly when leaders announce a gathering. Some congregations—usually larger ones—may assemble every few days, while others may meet as infrequently as every other month.

A typical gathering usually begins with a lot of talking and sexual bonding as pods greet and mix with each other. If they have not ingested it already, many attendants will gulp a dose of fish food during

this time. This psychotropic substance increases their concentration and ability to process complex details, useful for both performing and processing sound pictures. The meeting comes to order when the ceremonial one/fish is released. A chosen cetacean—usually a calf nearing independence or an adult being specially honored—is assigned to hunt it down.

The choir then dives below the congregation and orients itself so it can sing upwards to them. Meanwhile, the audience forms a songring often several cetaceans deep. The choir then echolocates at the congregation, reciting a given excerpt or group of excerpts from the Whalesong Epic. Typically this recitation takes the form of a sound play with each individual choir member layering on specific details. In traditional congregations, performers present simple sound plays, but more progressive churches sometimes feature echo/motion performances instead. After some moments of reflection, during which the choir rejoins the audience, various individuals dive below the sound ring to offer insights or thoughtful questions about the excerpt they just heard. After everyone has had a chance to contribute, by unspoken consensus the ring breaks up and the congregation members go back to mingling, fondling, playing, and conversing again. Because sound pictures allow cetaceans to communicate much more quickly than human speech, humans often find gatherings surprisingly short.

More informal Whalesong performances take place almost every day. Any cetacean is free to come to a church at any time and perform an original version of an older song or contribute a new composition to the Whalesong. Ambitious amateurs will gather whole groups to sing parts in a new piece, but most perform alone. A mother may project her grief over the death of a calf, a juvenile might sing of his first taste of independence, or a pod might gather to share their memories of a podmate who recently wandered away to die. Other cetaceans who drop by the church may stop to listen to whomever is performing, or they may ignore the singers and go about their business of bonding, playing, or meditating.

In an ironic twist, remotes are becoming increasingly common at urban Church gatherings. Cetaceans deeply entrenched in human culture often have difficulty matching their schedules to the haphazard schedules of Whalesong meetings. As a result, many of these individuals have begun attending gatherings through telepresence.

HOLIDAYS

Nearly everyone on Poseidon participates in the yearly Planetfall celebrations that commemorate the first settlers' arrival on the planet. The Church has become an integral part of that holiday for cetaceans as even the smallest congregations will sponsor elaborate, around-the-clock performances of songs recreating the early days of the Athena Project and reenacting major events from colonial history.

The major cetacean holiday, loosely translated as the Time of Awakening, is a commemoration of whale genlift. The celebrations are highly anticipated and exuberant, often lasting a week or more. They feature demonstrations of cetacean abilities of all kinds: acrobatic, artistic, musical, and intellectual. Church members practice for months to learn elaborate synchronized swimming routines or to memorize long sections of the Whalesong. Both calves and adults participate in the events and demonstrations, some of which may last for several days. These events have begun to attract human tourists who are curious about cetacean culture. While the performances are still geared toward their original purpose, some communities have begun to make accommodations for human audiences. This is especially true in New Fremantle, which is beginning to acquire a reputation for its interesting, high quality, and entertaining events.

A lesser-known cetacean holiday recognized by the Church is called Gone/Forever. On this day whales gather to remember the many other species of cetaceans who are extinct. These gatherings usually feature long series of sound plays about lost species, especially the legendary progenitors of the Church, the great whales. Usually after the singing, congregations end the gathering with exuberant sexual revelry as an affirmation of their own existence and survival. Aside from these traditional holidays, most congregations have their own unique celebrations. Any time events of great significance happen in a cetacean community, the local songmaster may compose new songs to tell of them. If an event is meaningful enough, the local church may establish a holiday featuring its song. Such events might include the loss of community members to a predator attack or deliverance from a particularly savage storm.

CONGREGATIONS

Because each local church develops its own nature and Whalesong repertoire, congregations develop

WHALEFRIEND

Humans have a hard time understanding the reverence most cetaceans have for the memory of Marcus Gottfried as there is no analogous person in their own history. Gottfried holds an almost god-like place in the whale psyche and there are countless cete cultural institutions that bear his name or pay him homage. Schools, hospitals, pods, and territories are named after him.

One of the most solemn days in the Whalesong calendar is the yearly celebration of the Time of Awakening in which honoring Gottfried is an integral part. The anniversary of both his birth and his death are also marked by special Church ceremonies. Estimates assert that more than 20 percent of all cetes, male and female, call themselves Marcus at some stage in their lives. He is the only human mentioned by name in the Whalesong canon, and in fact he actually appears twice.

There is also a growing body of Gottfried myth that many cetes profess as truth, even though the mythos continually evolves in the characteristic Whalesong style. According to these stories, Gottfried lived to 150, could understand sound pictures, had more than a hundred cetacean lovers, and killed a great white with his bare hands. There are also those in the Church, and among cetacean culture at large, that revile Gottfried. In the contradictorily illogical way of which only sentient creatures are capable, they blame Gottfried for every woe that has befallen cetaceans since genlift. They claim that the Eden of their primal state was corrupted by his megalomaniacal obsession. They refuse to credit Gottfried with the fact that he ultimately saved cetaceans from extinction and simply fail to recognize his role in their sentence.

Regardless of where his sensibilities lie, every cetacean has very strong feelings about Gottfried and his legacy. Hero or villain, Gottfried will forever stand as the single most significant human in cetacean history.

distinct identities over time. A songmaster's particular interests and composing style, the recorder's tastes, and the specific history of the community all influence the character of the church. Cetaceans often develop a strong loyalty to their church community and find it difficult to adapt to a new one if they relocate.

Haven's church, as the biggest, the oldest, and the most political on Poseidon, is undoubtedly the most influential within both the cetacean and human communities. The songs chosen and composed by their many full-time songmasters and recorders focus on human-cetacean interaction and the great heroics of archetypal figures from the past. Their sound picture style is extremely elaborate, highly abstract and metaphorical, sung by choirs with dozens of members. The Haven church greatly influences the politics and repertoires of the smaller churches on the planet, and often uses its own performances and events to influence its congregation's perception of current issues in the capital city.

In contrast, the church at Baffin Island in the Sierra Nueva cluster has no building at all and only rarely holds formal gatherings. The members prefer sim-

ple stories about cetaceans from their own community who upheld the principle of awake/breathing or performed courageous or selfless deeds in the style of the great heroes of the past. Their recorder doubles as the community's teacher, and they have no songmaster at all.

ROLES WITHIN THE CHURCH

Songmasters, recorders, counselors, and church leaders are the primary workers in the Church of Whalesong Theogony, though their particular duties vary somewhat from congregation to congregation.

Songmasters

The songmaster, or vision/singer, heavily influences the nature of any given congregation. As with many other positions, the songmaster may or may not be a full-time church employee, depending on the size of the congregation. This cetacean leads the choir, usually in multilayered compositions interpreted by the songmaster himself. Even when leading the choir in traditional songs or those acquired from other congregations, the songmaster usually reworks the piece to reflect his own particular vision of the story. Nat-

urally, this revising sometimes leads to inconsistencies in stories from congregation to congregation, but most cetaceans do not seem to mind, more concerned as they are with the larger significance of what happened than the accuracy of minor details. Belugas make good songmasters as they are generally gifted in their composing abilities. They also have a talent for hinting at the deeper meanings of a particular song even when using very simple styles.

Recorders

Perhaps the most important job in the church belongs to the recorder, or as they are called in cetacean language, the choose/remember. Recorders tend to the continuation and growth of the Epic itself. A recorder determines which songs will be remembered, which ones will be spread to other congregations, and which ones will be brought to his own congregation. Nearly everything that the songmaster composes is preserved, but the recorder also captures promising or important work from lay members of the congregation who come to the church to perform their own songs. The role of the choose/remember arose in pre-Recontact times when recording was often not possible. Though most recorders have at least some level of technology they use to capture songs, it is tradition that most recorders still memorize large portions of the Whalesong, especially excerpts that are uniquely important to their particular congregations.

Though many songs are recorded and stored, the vast majority of contributions to the Whalesong made by church members will never be performed again. Most congregations rely on the songmaster and a few other talented amateurs to provide songs worthy of being repeated and spread. Even so, many church members still enjoy creating and performing their own works despite the spotty audiences and the likelihood they will never be sung again. The database of songs from every congregation on Poseidon is stored on CommCore and can be downloaded by recorders at any time, and they do occasionally discover new songs from other congregations that way. However, most recorders prefer to expand their repertoires the old-fashioned way by traveling periodically to other churches. In this way they hear other congregations' best songs and share the best of their own. The cumulative work of choosing and evaluating songs over the last 150 years has led to a semi-formal canon of excerpts sung regularly in nearly

every church—especially during major celebrations. Most of these songs have become standardized over time, though congregations continue to make changes relevant to their own experiences. In recent years, Church officials have begun tracking these changes both to keep the original stories intact and to better understand the changing natures of their congregations.

Counselors

Many churches support counselors who act as community advocates and arbitrators. Counselors intercede before problems escalate and pod members resort to shunning or physical violence. They act as mentors for juveniles setting off on their own and sometimes as liaisons with humans or newcomers who have business with the community. In smaller churches, the counselor's role may be filled informally by a cetacean not actually employed by the church. In other cases, the church leader doubles as counselor. Often the church counselor coordinates other volunteers who act as mentors and community contacts.

Church Leaders

Whalesong church leaders, or silent/providers, act as facilitators during services by introducing songs or special honorees, making special announcements, and releasing the ceremonial fish, but they rarely preach or dominate the services in any way. They often do not speak at all during the ceremony or do so only in turn with the rest of the congregation. Most of their duties are carried out behind the scenes, as they are responsible for organizing and administering their church. They recruit and supervise the church workers, determine and communicate gathering times, and collect and budget donations and other monies. Like all church positions, the demands and scope of the job vary a great deal depending on the size and location of the congregation. Often the leader and counselor positions are combined in smaller churches to make a single full-time job.

Though the church leader's position is intended to be of no greater importance within a given church than that of any other official, the role does put the leader in a position of subtle but significant power. Their control over events, scheduling, and finances means most church leaders have de facto control of their local congregation. Additionally, humans assume there is more significance to the role than

there really is, and through that assumption they give leaders more clout and influence than other Church officials enjoy. As a result, many church leaders have valuable connections and influence in the human community. Some have used this influence to improve cetacean-human relations in their communities or to obtain resources for their congregations. Others have used it as a springboard into local politics. Still others have begun to use the position simply to gain personal power and resources, an uncharacteristic but addictive pursuit for some cetes.

CHURCH POLITICS

The largest Whalesong Church in the known systems is in Haven. Officially, it does not hold sway over other congregations, as the Church lacks that sort of formal hierarchy. Even so, the Haven church is a singular force within the Whalesong on Poseidon, simply through the influence lent it by its size and by tradition. Though historically the Church of the Whalesong has been an apolitical organization, this has been due mostly to its leadership's naivete

and lack of ambition. Over the past decade, however, as cetaceans have become a notable social force on the colony world, not only has the leadership of the Haven church become more influential in the human world, but other churches and congregations have begun to gain substantial clout as well.

With the Whalesong tenet of survival motivating their concerns, Church leaders all agree that one of the most important institutional goals of the Church must be to stop the environmentally damaging activities currently taking place on Poseidon and to preserve the integrity of the planet's biosphere. The long history of environmental destruction on Earth and the genocidal behavior of past human generations have convinced Church leaders that they must use their growing political and economic influence to force change in the way the colony world is settled. For the first time, cetaceans have the intelligence and resources to play a role in determining how their world is exploited, and they are set against allowing the past to repeat itself.



As in many human institutions, competing factions with very different agendas have begun to vie for control at every level. The most visible, controversial, and influential figures in the Church today are Pope, the bottlenose in charge of Haven's dominant congregation, Alonzo, the fin who heads the church in New Fremantle, and Buffalo, a headstrong orca leader from Kingston. All three are powerful in their own ways and bent on preserving Poseidon. Their current activities and future plans for accomplishing this end, however, are radically different.

POPE

Pope is currently the dominant figure in the Church on Poseidon, but his position as such is growing tenuous. Even though he has the majority of popular support, his followers are not as rabid in the service of the cause as those who back Alonzo and Buffalo. Pope proposes the most peaceable solutions and advocates the use of government entities, legislative lobbying, and aggressive law enforcement to protect Poseidon's ecology.

Pope holds a seat on the Haven City Council and is currently maneuvering for nomination in the 2202 mayoral race. He considers Mayor Janson Blair to be one of the greatest obstacles to real environmental progress on Poseidon. Pope encourages his supporters to maneuver themselves into government posts and advocacy organizations where they can press their agenda and influence the system. He encourages others to lobby legislators and increase human awareness about the need for environmental reform through community education and outreach programs.

In addition to pursuing legislative goals, Pope and his camp are working hard to improve and expand environmental law enforcement on Poseidon. It is well known that the GEO Justice Commission has too few resources on the frontier to investigate any but the most egregious crimes. As a consequence, many environmental violations ranging from pollution to poaching to wildcat mining go on unchecked. To address this problem, Pope directs fund-raising efforts intended to bolster law enforcement, largely by sponsoring warden bounties for the capture of environmental lawbreakers.

Pope also recently instituted a monitoring program called Whale Watchers that is designed to look for and report environmental crime. This program mobilizes the congregations of Whalesong churches scattered around the planet to monitor Incorporate

activities in their areas and report any illegal activities they observe to the Watch office. Most churches have responded enthusiastically, and many have set up regular monitoring patrols in their regions. Some churches consider it a waste of time, saying that these efforts will only catch the small fish and not the Incorporate executives who hold the real power within their organizations.

Pope's Whale Watchers program also recruits, trains, and funds cetes to serve under the auspices of the GEO's warden program. Known as stopper/catcher/hunters, or simply Hunters, many of these individuals are single-minded and rather fanatical. They are coming to be looked upon by most members of the Church as a sort of monastic order. Working closely with congregational patrols, these nomadic agents follow up on observed violations by investigating, filing reports with the Church and the Justice Commission, and making arrests when possible. Hunters receive stipends and equipment from the Church and rarely accept GEO rewards for their arrests, allowing the monies to be used to increase the bounties for other environmental crimes. Hunters are beginning to gain a romanticized reputation within cete culture, and many young whales play games of Hunters and poachers. Hunters do not always follow established procedures for the GEO warden program, however. They sometimes overstep their authority, acting more like vigilantes than legal officers, meting out their own sort of natural justice. As a result, the Hunter program is raising controversy in the Church, and it is already a point of contention between the Justice Commission and the Church leadership.

ALONZO

Alonzo is the most idealistic of the three; many call him naive. He criticizes the Church for discouraging human membership, saying that if humans were only exposed to the teachings of the Whalesong, many of them would better understand the cetacean perspective. He points out that cetaceans are unlikely ever to gain enough power over society at large to force humans to change, but if some humans could be won over to cetacean ways of thinking, human cultural change might come from within.

Alonzo's followers call themselves song/share but are known to humans as Disciples. They travel from place to place visiting communities both large and small, teaching any humans that will listen about

the Whalesong. When Disciples enter a community, they typically situate themselves on a convenient beach or dock and offer Whalesong gatherings, interpretive seminars, and even academic classes to all interested humans. Most activities are conducted in human speech, and where possible, songs and stories are translated into simple sound-picture simulations through trodes and audio-visual interpreters.

Curious humans stop by to listen but rarely commit themselves to more. The movement has gained some momentum among its cetacean supporters but has found few human adherents. Humans are not able to perceive the sound pictures that are so central to the Whalesong, and even with technological assistance they have trouble following the subtleties of the stories and discussions. Most humans also have trouble relating to a nature religion born out of what amounts to alien thought and experience. Those who do embrace the epic are often outsiders such as natives and hybrids. People who advocate environmental protection or are looking for a more altruistic worldview are also drawn to the Church.

A growing faction of the Disciple movement, frustrated with their lack of success in reaching humans, wants to radically revise the Whalesong in order to make it more accessible to humans. They want to add human characters to the stories, translate settings and other details into human terms, simplify the sound pictures, and broadcast them as holovids instead of sound pictures. They also want to revamp the gathering services so they can be conducted on land or in mixed human-cetacean venues. This idea has met with a great deal of resistance, the majority of cetes rejecting the thought of letting humans influence the one aspect of cetacean culture that is truly theirs alone.

BUFFALO

Buffalo is an aggressive radical with dangerous ideas and a dark ambition for the future of Poseidon. She is a clever manipulator and works through a cadre of lieutenants while she maintains the outward appearance of a respectable Church leader. In typical orca fashion, her plans take the direct approach and call for the forced expulsion of humans from Poseidon. She claims there is no other way to stop human destruction; she believes "it is in their nature and will never change."

Buffalo is loosely associated with various terrorist groups on Poseidon and is suspected of diverting

church monies to fund their activities. She maintains a broad and effective intelligence network and uses that information to sabotage planned and newly established colonial activities. Buffalo maintains a band of dedicated followers that she calls Diplomats who travel in roving pods carrying out her dirty work. Some of her followers hope to terrorize humans enough to drive them off the planet; others simply want to kill them all. Buffalo has not gathered enough support to attempt a large-scale assault, but clearly that is the direction in which she wishes to go.

Her ultimate goal is to instigate a full-scale war between humans and cetaceans. She has begun recruiting efforts on Earth to bring over bitter cetes ready to do their part in exterminating the apes. She has set up training pods on Poseidon and sharpens her soldiers' skills by attacking far-flung Incorporate installations. Her efforts include pitting cetaceans against humans within the general populace. To this end, Buffalo's spin-doctors broadly publicize every Incorporate offense, often exaggerating or even making up facts to further demonize humans.

Buffalo oversees various interests, both legal and criminal, that provide the money she needs to support her movement. She is clever and dedicated, but her dependence on her lieutenants may be her undoing. Her control over her operation is not iron-clad and for over a year, her second in command and the Kingston church's songmaster, a beluga named George, has been working to undermine Buffalo. George and his supporters feel Buffalo is not going far enough in her actions against the humans and have embezzled large amounts of money from the Church's accounts in order to accuse Buffalo of mismanagement and discredit her.

George has already begun work on his own plans for ridding Poseidon of what he thinks are its human parasites. In a small but well-equipped lab in Kingston, a cell of radical fin scientists are looking for a way to shut down the wormhole and cut off access to Earth forever. They are also working on an even more insidious backup plan. They are working to engineer a virulent strain of plant pathogen more devastating than the Fischer virus. Their intent is to release it on Earth should their plan to seal the wormhole fail. The Blight worked to stop human encroachment on Poseidon once; George reasons it might be the easiest way to stop them again.

SOCIAL RELATIONSHIPS

Cetaceans seem unable to internalize the concept of ownership, and nowhere is this more apparent than in their relationships. Humans have a tendency to think that they possess other people with whom they have close relationships—especially in romantic and parent-child situations. Cetaceans, on the other hand, consider themselves stewards of the calves that are in their care and fully share responsibility for raising young with other members of the pod. Once the calf is old enough to live independently, often well before sexual maturity is reached, the mother willingly lets the calf go to live in a pod with other juveniles, knowing she may never see him again. This does not mean cetacean mothers love their calves any less than human mothers love their children; it simply means that they conceive of their relationship and responsibility to the calf quite differently. Calves are not something that belong to them. Instead, they are a privilege to care for as long as they need care. Their purpose in producing them is not to create life-long obligation and companionship, but instead to manifest the Whalesong by procreating the species, teaching their young what they can, and releasing them freely into the world.

Romantic relationships are even less possessive. Long-term love affairs are rare, and when they do occur, the two partners seldom live in the same pod but meet to consort and then return to their typically single-sex home pods. The distinction between romantic and friendly relationships is harder to make among cetaceans as they regularly engage in sexual play in both cases. In a sense, this means the members of a home pod could be considered involved in a long-term, homosexually romantic, collective relationship.

RELATIONSHIPS AMONG SPECIES

Common Dolphins and: Bottlenoses

Fins and commons get along easily because they are so much alike, sharing the same playfulness, curiosity, intelligence, and even approximate size. Commons feel a special appreciation for fins because they were the ones ultimately responsible for genlifting the first commons more than a hundred years ago. They rarely test fins as they do other species, feeling secure that bottlenoses understand and listen to

them. In fact, fins are often the only species able to get through to commons when it is time to be serious.

Belugas

Commons know that when they decide to be serious, bels will listen. As a result, they do not feel the same urge to tease bels as they do orcas. However, since bels are generally hard to amuse, commons cannot always help themselves and feel especially satisfied if they manage to get a laugh out of a particularly dour beluga. Commons do love sound-plays and are mesmerized by the artistry and acrobatics of which bels are capable. Commons do not care much for any sort of philosophy, even bels', but sometimes enjoy engaging belugas in such discussions just to remind them of their considerable mental attributes.

Pilots

Commons see pilots as stodgy and inflexible. They often play tricks on them but usually find it unsatisfyingly easy, sometimes becoming irrationally frustrated with the pilots' constant seriousness and disapproval. Like other cetes, they do admire the peaceful, cooperative nature of pilots and grudgingly respect them for it.

Orcas

Commons can be quite antagonistic in their incessant taunting of orcas, especially newcomers. They find the big whales' smug arrogance insufferable and find humor a useful weapon for cutting their giant cousins down to size. With time and patience, orcas and commons can come to terms with each other, especially once the commons believe they are being taken seriously. This typically happens faster with native orcas, who are more cooperative by nature and more receptive to the input of less powerful creatures.

Bottlenose Dolphins and: Commons

Newcomer fins are the most appreciative of commons because they know how smart they are and how much they have to offer. Native fins are not used to dealing with genlifted commons, but quickly learn to respect their abilities and enthusiasm for life. Fins and commons also find mutual understanding through their shared love of jokes and play.

Belugas

Native fins are fascinated by genlifted belugas, and as with pilots and commons, have only known them since Recontact. They admire belugas' unique abilities and actively seek them out for work in the Church. They see belugas as their equals in understanding the subtleties of the Whalesong and as their superiors in performing sound-plays. Fins would rather not share the leadership of the Church with belugas, however, which is a source of dissatisfaction among bel devotees. Newcomer fins are more used to working with belugas, and though they appreciate their artistry and athleticism, they sometimes find them temperamental and impatient.

Pilots

Newcomer fins feel a protective sort of affinity toward pilots, whom they see as hopelessly naive. They like the pilots' cooperative, loyal, and easily guided nature, which fits so easily into the bottleneck pod structure with no competition for leadership. Native fins have only known genlifted pilots since Recontact and are very curious about them as a result. They typically feel intellectually superior to pilots, but work hard to encourage pilots to express their views to the group.

Orcas

Native fins tend to have the best relationships with orcas, having worked with them for so long on Poseidon. Newcomers are more tentative about speaking their minds to orcas, but this instinctual intimidation is balanced by their secret assumption of superior intellect. When newcomer fins cannot outmaneuver orcas for the leadership role in a group, they play on the egos and natural instincts of orcas to manipulate them into making the fins' ideas their own. Native fins are more willing to accept orcas as leaders and work within the group structure without subverting it.

Belugas and: Commons

Belugas and commons share no animosity, but they seldom become very close either. Bels do not find commons all that funny, and unresponsive audiences frustrate commons. Bels do appreciate commons' intelligence when they contribute things of substance, and commons enjoy belugas' singing and acrobatic ability.

Bottlenoses

Bels get along easily with fins, who are best able to appreciate both their artistry and their philosophical musings. Bels appreciate the welcome they have received into the Church of the Whalesong, though some are beginning to grow dissatisfied with the limited roles they are being allowed to fill. They admire the intelligence of fins, which they consider equal to but different from their own. Occasionally there is conflict when a bel and a fin both seek authority in a group, and it usually falls to the other members to work out a compromise.

Pilots

Belugas are a little disdainful of pilots, whom they see as meek, unintelligent conformists. However, they often come to appreciate their better qualities after working closely with them. They also make good audiences for bels who want supportive feedback on their ideas and works of art.

Orcas

Male bels and transient orcas sometimes have trouble interacting with each other. The bels' natural fear of orcas is balanced by their unspoken disdain for the hulking cetaceans' lack of imagination. Both orcas and bels grow up in a male-dominated pod structure. As a result, bels who are used to being in charge have a hard time submitting to orcas, and dominant orcas are often unable to submit gracefully to smaller but more intelligent bels. Female belugas have an easier time getting along with orcas, as they are used to maneuvering in a male-dominated world. Bels admire the grace and power of orcas. They also appreciate orcas' acute instincts, seeing a certain poetry in their responses and ferocity.

Pilots and: Commons

Pilots are often shocked by the behavior of commons, especially their antics with orcas. All pilots want is to maintain peace, and all commons seem to do is disrupt it. Sometimes pilots are secretly amused by the commons' jokes, but they rarely display anything but disapproval. They generally try to keep commons at a distance because they do not appreciate all the jokes at their expense.

Bottlenoses

Of the other cetaceans, pilots generally find fins the most trustworthy. They suspect that fins do not genuinely respect their intelligence or passive nature, but most fins still treat pilots with courtesy and consideration. Pilots enjoy bottlenoses' daring tricks and play, subdued enough for their tastes but still different from their own ways. Pilots are most comfortable with native fins, who do listen to and value them.

Belugas

Pilots generally have little interaction with belugas as they simply do not have much in common. Pilots are not interested in belugas' impractical philosophies and are incapable of responding with any kind of intellectual enthusiasm. Though pilots are not the least bit creative or artistic themselves, they do enjoy belugas' sound-plays and acrobatics and like being singled out for performances of works in progress.

Orcas

Pilots have a hard time repressing their instinctual fear of orcas, which makes them even more submissive around the massive cetaceans. Even though orcas are the least likely to solicit or respect pilots' opinions, the smaller whales rarely upset orcas' plans. They are too afraid of the orcas' wrath, should their interference be discovered. Pilots find native orcas easier to deal with, as they tend to be less aggressive and disdainful.

Orcas and: Commons

Orcas generally cannot stand commons, who constantly tease and taunt them. Commons seem impervious to intimidation, and in fact the orcas' attempts to bully them seem only to urge the little dolphins on to more mimicry and pranks. Orcas can reach good working relationships with commons, discovering

that commons are actually quite intelligent when taken seriously. Newcomer orcas, less used to cooperative behavior, have a harder time reaching truces with commons and always seem at odds with their mischievous cousins.

Bottlenoses

Orcas, especially natives, have the most respect for fins. Despite their small size and playfulness, fins are usually found to be courteous and serious when necessary. Moreover, orcas admire bottlenoses' keen intellects, sound advice, and strong sense of loyalty within their fraternal pod structure. Many orcas know that fins will sometimes be manipulative and are therefore wary of bottlenoses eager to ingratiate themselves.

Belugas

Neither newcomer nor native orcas know what to make of belugas. They are enthralled by their elaborate sound-pictures and songs but do not consider art real work. Moreover, they find belugas' endless musings about the Whalesong and their place in the world tiresome. Orcas do respect the bels' deliberate work ethic and admire their acrobatic ability, frequently joining them in informal contests and synchronized displays

Pilots

Both native and newcomer orcas have few issues with pilots because they are easily swayed and comfortable following orders. Newcomer orcas may be used to working with pilots, but natives often need some time to adjust to pilots' passive nature. Orcas respect pilots' loyalty, stable pod structure, and lifelong family ties. They generally consider pilots valuable teammates for their cooperativeness and reliability, though they are disdainful of their pacifism.

POD STRUCTURE

Cetacean relationships and group dynamics vary by species, but in general, the primary bond is not between a male-female pair, as in human culture. Instead, cetes form their most significant relationships with their podmates. Long-term romantic relationships do occasionally occur with other cetaceans or even humans. However, most cetaceans do not expect to find themselves part of such a relationship,

and certainly not a monogamous one. Cetaceans use casual and frequent sex to create closeness in all types of relationships: between friends, relatives, podmates, and professional colleagues, as well as lovers. Like humans, younger cetaceans tend to be more experimental and wide-ranging in their sexual encounters, whereas older cetaceans are more sedate, at least in a relative sense.

The primary cetacean family unit is the pod, which is comprised of two to 50 members that consider each other kin regardless of actual blood relationships. The cetacean term for these groups is roughly translated as body/water/same. This sound picture suggests an exceptional level of intimacy and closeness in these groups. In fact, a cete often seems to incorporate his podmates into his own sense of personal identity.

Age and gender usually define pods. Some tightly bonded kin groups are made up of adult males. In female-dominated groups, a grandmother leads a pod composed of mothers, friend-helpers, and calves. In many species, calves leave their mother's pod once they are old enough to care for themselves. They move into juvenile groups of one or both sexes until they reach maturity and then leave to join an adult pod. Larger herds are more fluid, growing and shrinking according to circumstance, but are always comprised of these smaller, more stable units.

Some regions or circumstances have too few members of a single species to make up these traditional pod structures. In these cases, pods may contain cetes of both genders and a variety of ages. Sometimes pods are formed based on work or community relationships and include cetaceans of different species as well as humans. With no cultural reference, humans often have trouble understanding the roles and expectations within these groups, but those who are patient, understanding, and dedicated find pod membership uniquely rewarding.

FORMING PODS

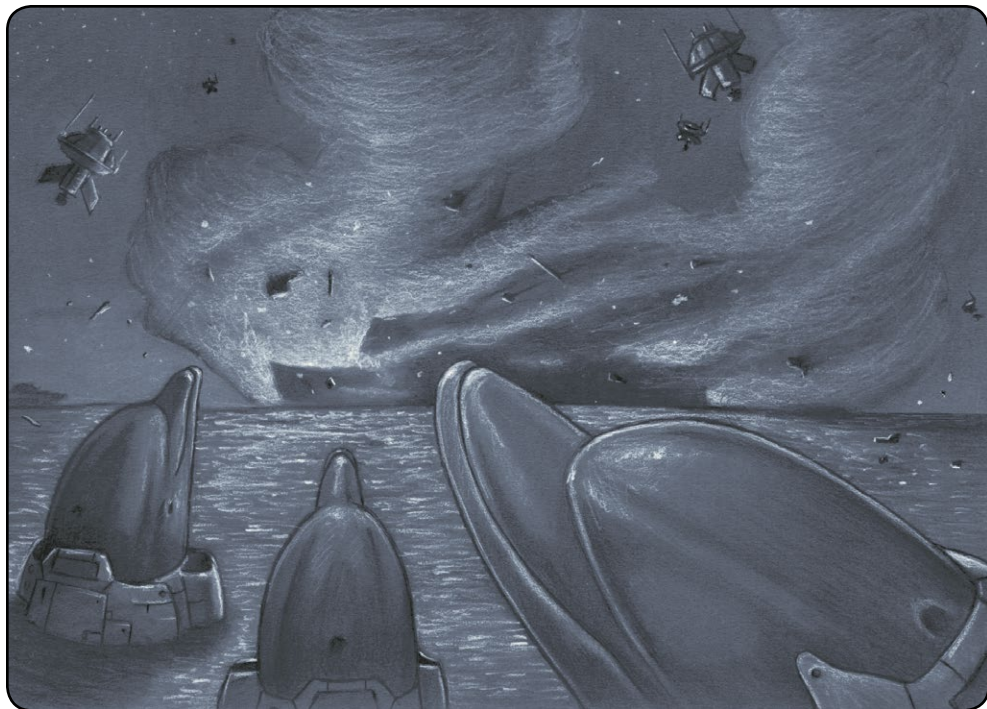
Joining a pod represents a commitment similar to marriage, and cetaceans enter a pod expecting the relationships to last the rest of their lives. Sometimes personalities do not mesh or betrayals undermine group trust or podmates die. When these things happen, the remaining members may break off and form separate groups or they may depart individually and start over again. Pods, unlike marriages, are formed among groups ranging from two to as many as fifty members, though most are composed of fewer than ten individuals. In this regard, pods are more like large families than individual partnerships, providing a more flexible social unit that can better handle issues that might break up a couple. Naturally, pod commitments are not entered into lightly, though to humans cetaceans seem quick to decide whether a group is right for them or if a new member is right

for their group. Cetes are intuitive beings and act instantly once they have made up their minds.

Pods can form in several ways. A group of individuals may come together to form a pod, though more often pairs or individuals enter existing groups, usually on the recommendation of a member or close friend of the new pod. Sometimes pods that have become too large will split, or smaller groups may merge. Though this process is sometimes emotionally difficult, such breakups and mergers usually result from a carefully built group consensus. A cetacean wanting to join a given pod must first be introduced, usually by a current pod member. He will participate in hunting, sexual play, and group acrobatics as a test of his personality and his emotional fit in the group. If all goes well during this initial encounter, he will be invited back for a number of subsequent visits. On each visit the initiate typically brings an offering of sorts for the group—the location of a productive hunting spot, a personal insight about the Whalesong, or the rules for a new game. Initiate and members alike will share stories about their pasts, their hopes, and what they are able to contribute to the group. The initiate will gradually spend more and more time with the pod until he is actually living with them. At some point, the group makes a final decision, often without open discussion. When it becomes clear that the pod has chosen to accept the initiate, each podmate in turn will couple with the new member and exchange personal names.

If at any point during this courtship the group decides against accepting the initiate, they simply stop inviting him to return. If he returns despite the rejection, the pod either ignores him or temporarily relocates until the initiate realizes he is unwanted. Rejection can be an emotional experience, and sometimes spurned initiates become depressed or even violent. Such cases are uncommon, however, as it is usually clear from the start if the new pod is a good fit. Conversely, if an initiate decides at any point he does not want to join the group, he simply stops visiting the pod.

When a human is the prospective member, the initiation process is very much the same. Aquaforms are both willing and able to participate in the aquatic play of initiation, and pod members usually make the appropriate allowances for drysiders. Most pod members understand that the sexual aspects of the bonding rituals may be inappropriate and leave the level of sexual involvement up to the human initi-



ate. In the end, even if actual intercourse is never involved, most human members become very physical—rubbing, massaging, and scratching—with their podmates. This helps build the necessary intimacy, and cetes love the dexterity and gentle touch of human hands.

While cetes are aware of the significance of the actions leading to pod membership, the rituals are subtle and humans not actively seeking to join may not realize when they are participating in a pod initiation. Usually one of the pod members with a better understanding of human sociology will clue in the initiate. If he then declines membership, there are usually no hard feelings. Sometimes, however, a human is taken by surprise at the sudden fierce loyalty or sense of betrayal a pod displays toward him, unaware that he had become part of that pod.

Podmates may work at different jobs or within different organizations or companies, but they typically interact as much as possible during a given day. They often eat meals together and always come together at the end of the day for hunting, play, sexual pursuits, Whalesong meetings, and sleep. They do not spend all of their free time together, but it is rare for pod members to be apart for more than a day or two.

POD COMPOSITION

On Poseidon whales interact with humans much more than they ever did on Earth, and human pod members are therefore much more common on the colony world. Some professions even lend themselves to mixed groups, such as charter companies, military units, research groups, and even smuggling rings. Still, cetaceans tend to form pods primarily with their own kind, especially in regions with larger whale populations. This preference is understandable as they face fewer cultural issues and are better able to help each other hunt, guard, and raise young. Mother-calf groups are the most homogeneous as the adults rely on each other so heavily to share parenting responsibilities. Juveniles also tend to form cetacean-only groups, though they are often more varied in species composition. Sometimes cetaceans may form secondary pod-like social groups with their colleagues while maintaining their primary allegiances to their home pod. These groups are less exclusive and demanding but seem to form naturally between cetes and those with whom they spend much of their time. Humans often find these close relationships fulfilling without the significant obligations and sexual aspects of true pod membership. They do not involve

the cross-cultural difficulties, yet still offer some of the same closeness and depth of understanding.

Isolated communities and native settlements tend to contain the most heterogeneous groups. In these lonely and often dangerous settings, the rewards of companionship and the diversity of abilities found in multi-species pods are typically more significant than any cultural accommodations that must be made. Cetaceans will instinctively attempt to create a pod out of whatever members they have available to them, even if they would not be especially compatible under other circumstances. Small, remote pods tend to be either closely knit or full of conflict. If the team or community is able to form two pods, they can achieve a better mix of personalities in each. Rarely, an isolated group may form a pod with some but not all members of the group. If the outsiders are human, they may not even notice. However, if they are cetacean, they will feel alienated to the point of feeling shunned.

Native humans are well suited to mixed pods as they are accustomed to living and working closely with cetaceans. Their extended family structure and communal attitudes closely resemble the multiple pod-bonds and reciprocal altruism characteristic of cetaceans. Newcomer humans have difficulty overcoming their cultural prejudices about cetaceans, making them unlikely pod members.

POD IDENTIFICATION

Most pods do not have formal names. However, cetes do have various ways of referring to specific pods. Sometimes they are called by the leader's name, such as Sounder/body/water/same. Other times they may be described by the area defined by the group's territory, such as sargassum/west/bay /shallow/coral/body/water/same.

Many pods have taken up the habit of marking their pod affiliation with a stylized symbol. Some use body paints but most use scarring to create the mark. The mark is typically made just below the left-side base of the dorsal fin, and the raised scar allows cetes at close range to identify a whale's pod via echolocation. The symbol is often a stylized version of some animal or Whalesong element with which the group feels a strong connection. Over the course of his lifetime, a cete may end up with several of these marks if his pod affiliations change.

Pods of Distinction

Occasionally, particular pods gain some public renown and either take names that reflect their public image or co-opt the ones given them.

A pod of transient orca pirates is currently hijacking boats and raiding marine facilities in the waters around the Zion Islands. The group has been dubbed "Long John Pilfer" by local media. The name plays on the cete affinity for puns and the pod's apparent propensity for xenosilicate shipments. The reports of their exploits are certainly exaggerated, but even so, their reputation for ruthless efficiency seems to be well deserved.

A mixed pod of fin, common, and orca patrol officers called the "Trustees" and operating out of Haven has long been admired within the GEO. They are often able to diffuse tense situations without violence and act with restraint when force is necessary. They have had a growing public reputation ever since their spectacular midnight firefight last year with a band of smugglers in Haven's East Harbor. Since then, the unclassified reports of their ongoing exploits have been eagerly followed on CommCore.

A large gang of wandering commons known as the "Itinerants" has gained respect in the scientific community for their fieldwork in marine biology, contracting out their considerable research skills to any scientists willing to hire them. To date, the data they have collected and the analyses they have made have been detailed, insightful, and in some cases groundbreaking.

A Kingston-based pod of orca mercenaries called swim/kill/dive/kill/leap/kill—the literal translation of their sound picture name—is highly sought after by various Incorporateds in need of marine assault soldiers. Not only are they forceful and merciless, they are discreet—a rare mixture of qualities among orca soldiers.

The most infamous pod of all is that of Bataku, the orca insurgent fighting in the Sierra Nueva cluster. This band of assorted orcas, fins, humans, and even a few radical pilots has carried out a long-standing guerrilla war against GenDiver. Aquaform humans make up at least half the group, but cetes are the unquestioned leaders among them. Bataku is advised by the group's spiritual leader, a dolphin named Prophet, and though the war pod is made up of loosely affiliated sub-pods, all willingly defer to the charismatic orca.

SHUNNING

Cetaceans understand the implicit social contract that joining a pod represents. They know their primary loyalty is pledged to the group in all circumstances and that they are trusted absolutely by the rest of their pod. Inevitably there are sometimes betrayals of this trust, whether unintentional or otherwise. Such a betrayal can be as minor as spreading unkind gossip about a fellow pod member or as serious as abandoning a podmate in a life-threatening situation. Depending on the nature of the transgression, the pod may choose to “shun” the offender as punishment.

Shunning is usually temporary, with the other podmembers disappearing for a few hours or, more typically, a few days. In more extreme cases, however, shunning is permanent. An offender typically has no way of knowing how long his shunning will be and can only guess based on the seriousness of what he has done. If possible, an offender may try to rectify his mistake during the time he is shunned. Sometimes just the effort is enough to earn reconciliation. Other times there is no hope of forgiveness and the break is permanent. In the most grievous cases, such

as when betrayal leads to the injury or death of a podmate, the remaining members mob the offender and bite off the tip of his dorsal fin, brutally branding him for all to see.

Shunning is the worst thing that can happen to most cetaceans, depriving offenders of the company and social interaction they need. It leaves them suddenly vulnerable to the dangers of Poseidon’s waters and, if permanent, can make it difficult for them to find a new pod. Such outcasts can only look for a place where they are unknown and hope, with no one to vouch for them, to earn the trust of a new pod. Solitary strangers who suddenly appear in a community are typically regarded with suspicion and distrust. Branded cetes are treated as pariahs wherever they go. At best, others ignore them; at worst, strangers attack and run them off. With such a mark it is unlikely the offender will ever again be allowed to join anything but a pod of similarly shunned outsiders. Some of these unfortunate cetes change their names and go so far as to have reconstructive surgery to repair their maimed dorsals. These individuals then live with the uncertainty of whether their past will someday catch up with them.



SOLITARY CETACEANS

Most cetes not only prefer but also actually need to live in the close company of a pod. Whales are gregarious by nature and depend on each other for effective hunting and protection from Poseidon's indigenous threats. Nonetheless, there are sometimes cetes who choose to live alone. In the primal past, such animals were typically aggressive males or postmenopausal females. Today such individuals are artists, spies, scientists, and other exceptionally independent types who would rather not answer to what they see as the personal limitations of traditional pod life. Other solitary cetes are depressed or morose, having lost their pods to age, predators, or some other tragedy, and are unwilling to join new groups. Still other singles are outcasts, having been shunned from their original groups and stripped of their pod affiliations.

Only the most introspective and self-confident cetaceans typically choose to live alone. The lifestyle is more demanding and dangerous but offers an empowering level of autonomy and choice. Often these individuals are more dependent on technology for protection and assistance when hunting. Cetaceans that choose to live alone still frequently seek out the company of others. They might swim, play, and hunt with coworkers or friendly pods, forming ongoing but loose affiliations with several groups at once. Because of the stigma of shunning, solitary cetes are often suspect when interacting with strangers. It is therefore a common practice for voluntarily independent whales to utilize chains of contacts to vouch for them with strangers or when traveling to regions where they are unknown. Such recommendations can eliminate what would otherwise be difficult and potentially dangerous social situations.

TERRITORIALISM

Most pods establish fixed territories where they typically gather as a group to bond, mate, play, hunt, and rest. Cetaceans call such home ranges mother/side/swim/safe and are quite protective of them. This sound picture represents the cetacean ideal of ultimate security—a calf swimming with his protecting mother. Territorial cetes exhibit a constant awareness of their home range's boundaries and are vigilant for intruders, predators, changes in the weather, and other untoward events. The members of a pod are so familiar with the terrain, currents, inhabitants, and other environmental factors of their home ranges

that, while within their territories, they receive a +1 bonus to all Cognition rolls to notice things out of the ordinary.

Home range size varies widely depending upon the species composition and size of individual pods. The larger the species and the higher the membership, the bigger a territory must be to provide sufficient prey for the pod. Small groups of commons can make due with home ranges of less than 30 square kilometers. Orca pods conversely establish territories in excess of a thousand square kilometers. Territories are typically established along coastlines or around small archipelagos as relative shallows provide the best hunting. In places with low cetacean populations there is little competition for territories, but in more populous areas home ranges form a patchwork of adjacent regions with actively patrolled borders. Most territories are in close proximity to human settlements to allow ready access to employment, CommCore, and other technological services. Small colonies and native villages typically attract only one or two local pods and are included entirely within the boundaries of these groups' home ranges. Larger settlements and cities attract larger cetacean populations and, as a result, competition for local territories is fierce. As a matter of necessity, most of the largest cities are surrounded by a sort of free zone, unclaimed by any one pod. Such zones allow movement within and around the city without the social rituals associated with passing through another pod's territory.

Cetaceans can travel through the territories of groups known to them with little trouble. Neighboring pods on good terms and those from nearby territories are typically allowed free passage at any time. When strangers approach a territory's borders, however, the home pod will usually intercept them and engage them in play, caressing, or even sexual contact. Members of the home pod will then either accompany them through the territory in a friendly yet protective manner, or else suddenly turn on them, ramming and biting until the strangers are chased off. Often unknown or hostile groups will not even attempt peaceful passage, instead rushing or sneaking past or battling their way through if necessary.

Peaceable groups can travel through the closely packed home ranges immediately surrounding a city with little trouble, though meeting and mingling with any number of the town's home pods along the way often slows their journey. Outsiders only face



real trouble if the regional pods pick up on suspicious intentions or if they intend to stay for extended periods. Pods hoping to remain in a new area must approach the local groups and offer gifts and signs of trustworthiness in hopes of being allowed to establish their own local territories. The rituals for moving into a new area and gaining acceptance by regional pods are similar to those used when an individual joins a new pod. They are much more chaotic, however, as many more whales are typically involved, but acceptance is more readily offered as the bonds between pods are never as significant or close as those between podmates.

Human natives find it difficult to keep track of the dynamics of pod territorial boundaries, and newcomers are often unaware that such territories even exist. As a result, humans often blunder into pod home ranges without realizing it. Usually this is of no consequence, and the resident cetes often join them for a visit or simply let them pass. If the humans are fishing, however, or harvesting other resources, conflicts commonly result. In native villages there is usually a close association between human and cete residents, and this typically includes cooperative hunting and fishing. In larger cities like Haven, Second Try, and

Kingston, human and cete delegations hold fishing rights conclaves where they draw up carefully delineated maps that define cete territories and demarcate the areas where human fleets can set their nets. Such agreements are often contentious, and violations and the resulting conflicts are a constant issue.

Despite this potential for conflict, human settlements usually welcome the presence of cetacean pods as their constant patrolling of the surrounding waters is a valuable early warning system against large predators and other potential threats. Of course, this cooperative dependence is only reliable if the humans are on good terms with the cetaceans. Cetes who are shunning or otherwise displeased with a human community have been known to let predators pass unmolested and to chase schools of fish away from the settlement's fishing grounds.

DEATH

Cetaceans have a more pragmatic attitude about death than humans do. They are so close to their primal roots and such a part of the ocean's predator/prey ecology that they have a unique familiarity with death. As a result, cetaceans do not fear it in the same way humans do because they are simply less intimidated or mystified by the event. This attitude makes cetaceans seem heartless to most humans and leads to cultural behaviors that seem cruel. When a member of a pod can no longer actively contribute to the group or makes the rest of the group vulnerable, he is expected to leave and survive on his own if he can. Such individuals might be seriously injured, handicapped by chronic illness, or simply weakened by age. Most such cetaceans leave the group willingly. They are rarely forced out, as they honestly believe the welfare of the group is more important than their own survival. This departure, known as *gone/die/gone*, is a final act of loyalty to one's pod and on Poseidon's frontier is tantamount to suicide.

When a debilitated cetacean disappears, he usually tries to do it quietly without drawing attention to himself. It is typically clear why he has left and the remainder of the pod becomes grief-stricken when the departure is discovered. Despite the heartless appearance of the behavior, cetaceans care deeply for their podmates and display unabashed and uncontrolled grief at the loss of those close to them. Such passion is quickly spent, however; after a few hours or at most a day of mourning, the remaining pod members gather together to share sound pictures

of the dead podmate's life. After this quiet ritual, the pod returns to normal life with only happy remembrances of the lost podmate.

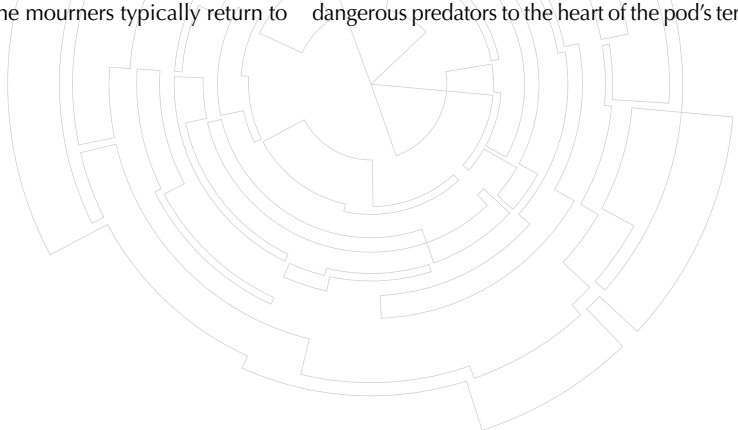
Despite this seemingly callous attitude, whales do not like death any more than humans and will do everything in their power to avoid it if possible. Without hesitation, cetaceans will use whatever resources they have to help a podmate recover; and unless a pod is in a very dangerous or precarious position, the group can generally find a role for even the most debilitated members. Such individuals can tend calves, reproduce, work in the local church, or run simple errands. Modern cetaceans have also come to value the experience and wisdom that comes with age, making older cetaceans useful to the group even when they become enfeebled. Now that older cetaceans have access to longevity treatment, aging has become even less of an issue. Though cetes who cannot afford the treatment—or consider themselves too decrepit to warrant it—still follow the traditional gone/die/done custom, cetologists suggest that the practice will largely disappear on Poseidon within a few generations if cetaceans continue to maintain their current enthusiasm for longevity treatments.

When a cetacean dies unexpectedly or is killed, his podmates often react with terrible anger and violence in addition to sadness. Most cetologists seem to think the reaction is driven by an instinctual desire to defend the pod even though it is obviously too late. This display can be terrifying in its passion, and it is important to note that cetes in such a state can be unpredictable. Again, the passion fades quickly, and in a few hours the mourners typically return to

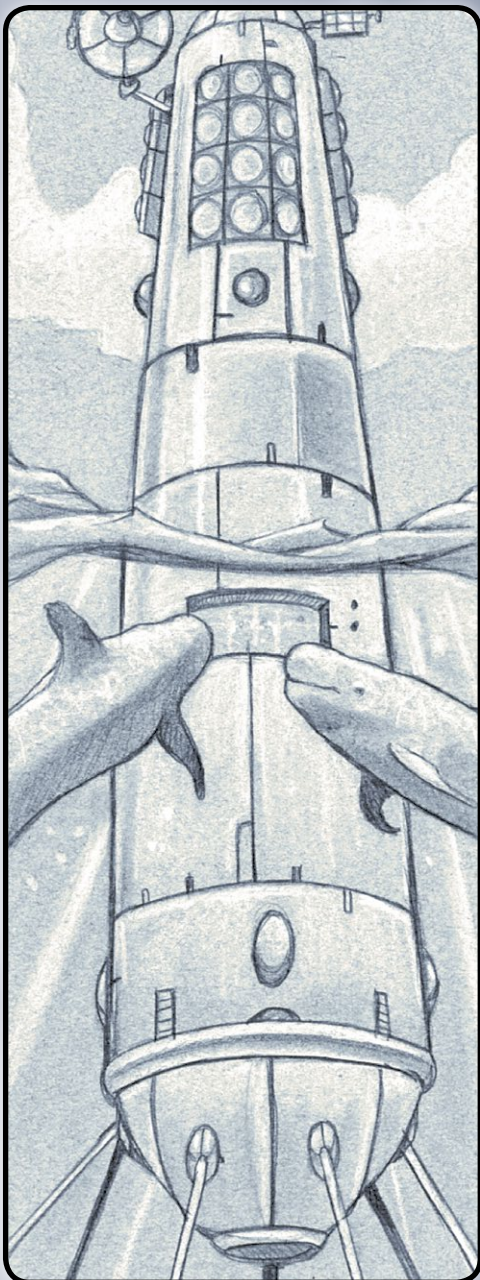
normal. They then hold a memorial ritual for their lost podmate and return to daily life. Most humans find the initial cetacean reaction to death terrifying, and many view their ability to let go of their grief so quickly as a callous contradiction. Cetaceans say their first reaction of sadness or anger is a primal, instinctual response; once it passes, they understand that some must die for others to live. Most humans find this answer unsatisfying and consider it little more than Whalesong mysticism.

It is important to note that one of the darker aspects of the cetacean psyche is their frightening capacity for vengeance over the wrongful death of a podmate. Cetaceans have been incorporated into human legal codes, and many laws have been rewritten to make this accommodation. Still, if a cete is killed, his podmates will typically stop at nothing to bring his killer to justice, often taking the law into their own jaws and meting out their own brand of eye-for-an-eye justice. Many such cases of vigilantism have made big splashes in the media and have become the premise for several books and a popular holovid production. Such acts have become a serious issue for the GEO Justice Commission and have even created diplomatic conflict between the GEO and the Cetacean Cultural State.

When a cetacean dies unexpectedly, his podmates often have a corpse of which they need to dispose. The practice is to tow the body well out to sea where it is left to attract and be consumed by scavengers. Symbolically, this represents a final contribution to the life/food/pattern on the part of the deceased. Practically, this reduces the chances of attracting dangerous predators to the heart of the pod's territory.



CHAPTER 4: LIFE ON POSEIDON



PASSAGE TO POSEIDON

Most Earthbound cetaceans see Poseidon as the promised land. On Earth, cetes must deal with polluted oceans, human prejudice, and limited career and education opportunities. Poseidon offers a chance at life on a pristine water world and a new ethic of cooperation with humans in almost any professional field. The cetaceans who are usually most satisfied staying on Earth tend to be resident orcas and older pilot whales who dislike change even more than they dislike Earth. Some employees of Hydrospace and various cetacean rights organizations, especially those working on marine restoration projects, are willing to stay as well. The young and untrained are the most dissatisfied, but unfortunately they are also the least able to manage passage to Poseidon.

The most straightforward way to gain passage to Poseidon is simply to buy a berth on a transport ship. Costs can be prohibitive, especially for the untrained or unemployed. Passage for the average cetacean costs 15,000 scrip, with a premium charge of 5,000 scrip for belugas, pilots and orcas due to their larger sizes. Many cetaceans receive financial help from family and friends already on Poseidon. Various cetacean charities and welfare organizations also provide financial assistance. Even when they manage to save or collect passage, cetaceans face long waiting lists as the number of outgoing cetacean berths is extremely limited.

Cetacean Incorporate citizens or GEO employees can sometimes manage transfers to Poseidon, traveling to the colony world as part of their jobs. Hydrospace, Hanover, LavOrg, and the GEO are the most likely to transfer cetacean employees, but even within these organizations transfers are not easy to get. To have a realistic hope of earning such a slot, an applicant must have the knowledge and skills the organization needs on site and the experience to beat out

the competition. Not only is training and hard work important, but timing, luck, and who one knows all play equal parts in securing such coveted jobs.

The cheapest and most desperate way for cetaceans to get to Poseidon is by indenturing themselves to a company or an Incorporate. In such an arrangement, the indentured worker enters a contract with the Incorporate to transport him to Poseidon in exchange for some stipulated period of service. The primary compensation is the transport itself, but the worker is typically paid a living wage or provided room and board during the duration of the contract. Most indentured contracts for cetaceans are for positions in marine security, field research, underwater construction, and facility maintenance. Though such positions are relatively rare, they eliminate competition from human workers and have the shortest lead time. Indentured workers get to Poseidon an average of three years faster than those awaiting open berths or job transfers.

Most Incorporates have had problems with indentured workers defaulting on their contracts and disappearing into Poseidon's burgeoning cetacean society. Once on the colony world many whales are overwhelmed by the planet and find themselves unwilling to meet their obligations. Law enforcement is stretched thin on the frontier and tracking down runaway contract workers is not a high priority. As a result, many contractors have begun requiring the implantation of location transmitters in all indentured workers. Applicant screening has become more stringent, and many Incorporates are beginning to hire cetaceans already on Poseidon, preferring to train them locally rather than bring them from Earth and risk desertion. Such precautions are further limiting the opportunities earthbound cetes have to reach the promised land.

RELATIONSHIPS WITH HUMANS

RECIPROCAL ALTRUISM

Like humans, cetaceans are social animals. In their primal state, the pressures of living in an aquatic habitat and hunting for food made cooperative behavior highly advantageous. Cetaceans coordinated their efforts to attack large animals or schools of fish. If injured or sick, marine mammals could easily drown, but podmates regularly supported disabled cetaceans

at the surface to help them survive. And if the helpers ever needed assistance, they could expect similar efforts in turn. This type of behavior is called "reciprocal altruism." The practice of helping others may seem idealistic, but it was actually a shrewd survival strategy for primal cetes. When everyone in a given group participates in this behavior, the chances of survival increase for everyone.

Modern cetaceans have learned the hard way that reciprocal altruism does not always work within groups containing humans. When the first generations of genlifted cetaceans joined the real world, they often found that humans gladly accepted help but could not be depended on to reciprocate in kind. Most humans did not recognize the implicit social contract they were accepting when interacting with cetaceans and the newly genlifted cetes had a hard time unlearning their instinctual nature. In fact, most cetes are still driven to provide aid and resources to those in need but have learned not to expect the same in return. This tendency toward social cooperation and generosity unfortunately gave the first genlifted whales a reputation for being gullible, naive, and idealistic—a reputation that still plagues cetes today.

On Earth, the growing cetacean disillusionment with human altruism became absolute in the years during and after the Blight when cetes were confronted with the worst of human nature. The situation on Poseidon, however, was quite different. When the Athena Project colonists first landed, relations were often strained between the human and cetacean populations. Most of the human colonists were not used to working with cetaceans and did not know what to expect. The circumstances of Abandonment became

so precarious that all colonists were forced to work closely together and to depend on each other. In the end, the dangerous and difficult conditions made reciprocal altruism the most viable survival strategy for the human and cete natives alike.

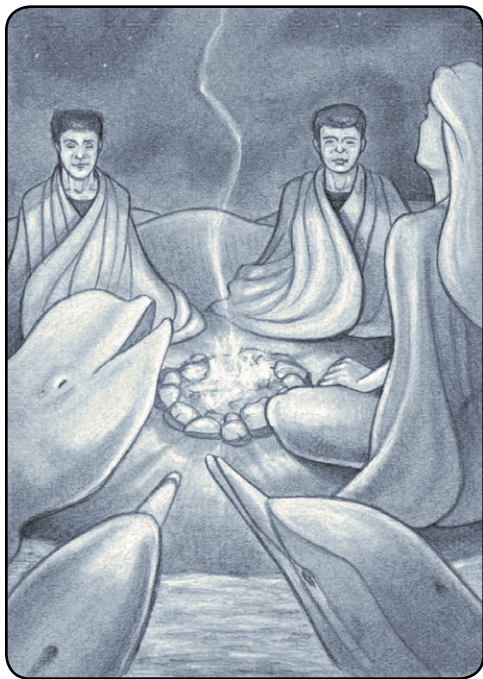
As a result, native cetaceans have built closer and more productive relationships with their human counterparts than any they have had since the days of the Gottfried Project. Native attitudes toward human friendship are positive and enthusiastic. They are openly willing to include humans in their pods, and most feel that human natives consider them true equals. These attitudes are unfortunately not shared by newcomer cetes. These whales have experienced a long and alienating struggle through the Blight years and hold a deep mistrust of humans and their motivations as a result. Sociologists wonder which attitudes will prevail as newcomer and native cete cultures blend together over the coming years.

Reciprocal altruism results in a high degree of inherent sociability among cetes. Even though genlifted cetaceans are able to work and live in solitude when necessary, most actively seek out the company of others, both whale and human, at every opportunity. A cete who is denied companionship due to isolation, sickness, or incarceration often develops sleeping and eating disorders that can lead to disease or even death. Cetacean rights groups on Earth are working to modify the prison system to meet the special social needs of cete inmates. They believe that the current system, with its cell-pools and general isolation, is cruel and unusual punishment.

RELATIONS BY SPECIES

Commons

Female humans appreciate commons' respect for women in authority. Commons like the fact that humans are the only sentient animals smaller than themselves and tend to spend more time around them than other cetaceans as a result. Commons are extremely curious and find human culture endlessly entertaining. They are great imitators and love to observe human habits closely and then reenact them to the great amusement of their friends. Commons enjoy the company of both newcomers and natives—newcomers because they offer so much to laugh at, and natives because they know how to take a joke and have a genuine respect for what commons have to offer.



Sex between cetaceans and humans sometimes happens, but commons are the only cetes that form occasional long-term relationships with humans. Of all the cetaceans, their coupling behaviors are most like humans. Moreover, they are closest in size to humans, and their natural curiosity about people gives human lovers a special allure.

Bottlenoses

Of all the species of cetaceans, bottlenoses are the most tolerant of human newcomer arrogance and ignorance regarding cetaceans. Most newcomer fins who have spent much time around humans have become adept at playing on their egos and ignorance about cetes to manipulate and direct them. For instance, fins are good at getting close to people in power and then using their influence to make subtle suggestions. In the end, the human often acts as if the ideas were his own while serving the dolphin's own agenda. Perceptive humans often recognize such machinations, but many of these subtle manipulations go unnoticed. Native fins are less adept at these games as they are used to more parity in their relations with humans.

Like all whales, fins generally prefer the company of natives. Many newcomer fins are eager to find a place in native communities where their contributions will be valued and they can live peacefully with others who share their values.

Belugas

Belugas are drawn to humans because of their shared interests in art and philosophy. They are attracted to humans like themselves: artists, performers, and writers, both amateur and professional, newcomer and native. Humans seldom understand cetacean art, just as belugas do not always understand the human aesthetic, but both humans and bels have found that the artistic sensibility is similar even between species. In recent years, belugas have begun incorporating more human influences into their own work. They are also quite willing to teach humans about cetacean art, and artistic humans who are open to these new experiences make appreciative students.

Belugas get along well with native humans because they tend to respect bels' interests even if they do not share them. They also appreciate the whales' preferred schedule of alternating periods of hard work and rest. In addition, bels get restless quickly, but in a native community there is always a

variety of tasks to work on. Belts do not have much in common with newcomer humans who do not share their interest in art. As newcomers themselves, bels are used to Earth-dwelling humans' ways and tend to avoid them if they can. When interaction cannot be helped, bels are vocal and blatant in speaking their minds about what is inappropriate in human behavior.

Pilots

Newcomer humans typically consider pilots easily manipulated and incapable of thinking for themselves. They often attempt to use them in pursuit of their own ends only to find themselves frustrated by the pilots' ineptitude in carrying out their instructions. They wrongly attribute these failures to the whales' stereotyped lack of intelligence. In actuality, pilots are willing to let their intellectual image suffer so they can confound enterprises of which they do not approve. Pilots typically avoid confrontation whenever possible and have turned this practice of passive resistance into an art. Pilots will work hard and diligently within groups they trust and actively avoid humans or cetaceans whose motives they suspect.

Pilots are comfortable taking orders from females, which many women coworkers appreciate, especially since this attitude is not common among the other cetes. Pilots are all newcomers and so are not yet common in native settlements. When pilots do interact with natives, the humans actually solicit the whales' input and treat them as equals. As a result, pilots show a deferential level of respect and cooperation for native humans.

Orcas

Most newcomer humans feel a natural superiority to cetaceans, which orcas sense and despise. However, newcomer orcas have learned they can usually intimidate humans, and other cetaceans as well, by displays of anger or brute force. They disdain the human lack of instincts and consider their technology and logic poor substitutes. These orcas are only slightly more tolerant of aquaforms but generally see humans as fragile weaklings ill-suited for life on Poseidon. Because of human dominance in numbers, technology, and society, newcomer orcas still show a grudging respect for humans, at least to their faces.

Native orcas also have little patience for human newcomer arrogance and will generally ignore or

brush them off unless forced to work with them. These orcas usually try to relegate any newcomer humans to submissive roles, which most humans resist. Orcas are stubborn about most issues, and it is often up to the rest of the group to maintain a viable working relationship when there is potential for such conflict.

Among native humans, orcas are more accepting and tolerant. They respect the natives' better-developed instincts, appreciation of cetacean culture, and relative ability in the water. Most natives have learned to react to anger displays without fear, which has further raised them in orca esteem.

MONEY AND WORK

Because cetaceans are able to provide for their basic needs without money, they have a different attitude toward work and wealth than humans. Cetaceans see money as an expedient—a necessary means to an end that has no inherent value. Cetaceans have trouble with the human idea of ownership, and the further abstraction of monetary value confuses the issue. Cetes have a difficult time understanding the human preoccupation with money and find human attitudes contradictory. Humans seem emotionally invested in money, yet they are often uncomfortable talking about it. They never seem to have enough money, yet they have more possessions than any whale could need. They seem to equate money with self-worth and power, yet natives, the most cetacean-like humans, have the least money of all. Cetaceans certainly understand the practical aspects of economics and the benefits of financial gain, but they are simply less motivated by the accumulation of wealth than humans.

There are only a few things whales need money for, and only two things for which they will work hard. Almost without exception, every cetacean wants to make the “great migration” to Poseidon. Passage is expensive and so transport to Poseidon is the single most significant fiscal motivation for most Earthbound whales. Almost all whales are inculcated with the fear of species extinction. Their recent primal history, the lessons of the Blight, and the teachings of the Whalesong have all served to exaggerate the cetacean respect of survival and their desire to avoid extinction. As a cultural response, almost all cetes have become obsessed with longevity treatments making them the highest financial priority for cetes already on Poseidon.

Cetaceans also find money useful for general medical care, buying and maintaining key technologies like remotes, and subscribing to CommCore services. Urbanized cetes immersed in human culture also typically need to purchase sleeping space and food,

but these expenses are optional and often only supplemental. As a result, even the most creative marketing executives find cetaceans a frustrating and elusive demographic.

Most cetes use any extra money they make to help pay for passage to the colony world for family and friends still on Earth. Most also donate huge sums, by human standards, to the Cetacean Cultural State, the Church of the Whalesong, and various cetacean rights and charity groups. Cetacean contributions to various insurgent groups on Poseidon are also thought to be significant—and growing. Despite their apparent indifferent attitude about money, whales are not naive about its value. Though not instinctually the best financial planners, most are able to manage their money effectively enough, even within a human economy that makes little intuitive sense to them.

With such minimal basic expenses, most cetaceans work not because they have to but because they want to. They find it interesting, educational, distracting, or even fun—good enough motivations for most whales. Because they work as much out of curiosity as for money, cetaceans can afford to hold out for short hours, pleasant conditions, and interesting positions. In fact, the cetacean reliance on longevity treatment seems not to have strengthened their work ethic but to have actually relaxed it. The prevailing attitude seems to be that there is no sense in living a long life if you do not enjoy it. Some cetaceans simply drift in and out of the work force, only taking jobs when they need another longevity treatment or a new CICADA.

Whales also do not identify themselves with their occupations in the same way most humans do. In fact, cetes often base their social names on their professions precisely because they feel their jobs reveal nothing personal. Work-related social names are not a sign of cetaceans' intimate connections with their jobs. Instead, they are merely a way of leaving

any truly private content out of their social names. In addition, whales do not generally evaluate a person's status based on his profession or rank within a profession. They do not see most jobs as better or worse than any others and tend to assume people, too, choose jobs out of personal interest. Because compensation is not the highest priority to them, cetes also do not use income to assess the inherent dignity of a job—or a person.

Consequently, cetaceans find humans' persistent complaints about working puzzling. When a cete dislikes his job, he quits and looks for one he enjoys. When humans say they cannot afford to change jobs or careers, cetaceans wonder about all the unnecessary things on which humans waste their money. Because cetaceans are able to choose occupations based on their interests and aptitudes without concern for a job's status or income, they are often uniquely dedicated and effective workers. They are typically self-motivated, eager to learn, and like what they are doing.

PROFESSIONS

Cetaceans are intelligent enough and remote technology is advanced enough that cetes can work in just about any profession. Humans have obvious physical advantages in most land-based occupations, but by the same token, cetaceans have superior capabilities when it comes to any marine field—and on Poseidon this is no small thing. In addition, because cetaceans are typically so reliant on remote technology, and because they are intuitively better skilled at controlling such equipment, cetes excel at any occupation dependent on remote operations. The following suggests some of the more likely career choices for cetaceans.

Whales are highly sought after for marine professions. For obvious reasons, most underwater search and rescue teams are made up of cetes. They are well suited to underwater construction jobs because most of the work is done via remotes and whales can readily eyeball problems and make quick visual checks. In the marine sciences, cetes are ideally suited to carrying out field research and have an intuitive understanding of, and lifelong experience with, ocean environments that human scientists can never hope to match. Along the same lines, cetaceans' natural weather sense and awareness of subtle environmental changes make them excellent meteorologists. They are able to execute computer modeling, using

their own intuitive abilities to double-check forecast accuracy.

Many jobs in marine industry are suited to cetaceans, including maintenance, construction, and staffing on ships, subs, underwater facilities, platforms, and floating settlements. The marine engineers and workers who build such structures are often whales. Cetes also make ideal aquaculturists, whether herding fish, maintaining kelp fields, or monitoring shellfish beds. Whales make good emergency medics, as they are uniquely able in marine accidents and can even echolocate to check for internal injuries. Cetacean career options on Poseidon encompass far more than just marine science and industry, however. Many cetes, especially pilot whales, are involved in colonial projects for the GEO and various Incorporateds. They scout, inspect, patrol, and provide support for both new and established colonies. Orcas are a valuable addition to any security force, whether private, Incorporated, or military.

Though it may seem unlikely, whales also make great spacers. Cetes spacers only need wetsuits to protect their skin and thruster packs to drive them. The lack of gravity in space is analogous to suspension in water, and the resulting cetacean ability to move easily through three-dimensional environments is a distinct advantage in zero-g. Moreover, most extra-vehicular work is carried out using remotes, another cete aptitude. Despite their advantages, only a small number of cetaceans actually choose this line of work. Most of them hate eating kibble and being unable to swim.

Some whales work as traders, living in traveling pods that migrate from place to place, buying and selling wares. Bottlenoses and belugas are sometimes drawn to politics, especially those who hold leadership positions in the church. Cetes have become increasingly important in the fields of clinical and research psychology. Their generally cooperative natures, intuitive skills, and highly attuned senses give them a special ability to understand troubled minds. Others are involved in more abstract scholarly pursuits in fields such as philosophy, multi-dimensional geometry, and physics. Bels are especially prominent in all forms of performing and fine arts.

Depending on their profession, many cetaceans can carry out much of their work from anywhere on the planet. Unless they need special equipment or more powerful processors, many cetaceans are able to work remotely because nearly every cetacean on

Poseidon wears a bodycomp and sonic trode. Statisticians estimate that as much as 73% of all cetaceans do not regularly visit their places of employment. Cetaceans value freedom of movement even more highly than humans and are happier and more effective working through telepresence while remaining free of body than they are floating in a workspace all day. The other 27% generally only come to work because they have jobs whose very nature requires their physical presence. These include most soldiers, patrol officers, spies, construction workers, and field scientists.

PROFESSIONS BY SPECIES

Commons

Commons make excellent researchers because of their creative, analytical minds and strong spirit of independence. They do not often succeed in leadership or managerial positions because most other species have a hard time accepting their authority. Moreover, they are typically not interested in taking on broad responsibilities. They do well in any position that gives them a loose rein and lots of independence, such as spying, scouting, pioneering, prospecting, and crime.

Bottlenoses

Fins are not only agile of body, they are also agile of mind. They are superb problem-solvers, quick to make connections and discover alternate solutions. They make excellent analysts and strategists, capable of swiftly sorting through large amounts of information, drawing conclusions, and taking action. For these reasons, they make very good researchers, spies, insurgents, doctors, pioneers, and managers.

Belugas

Bels are used to alternating periods of heavier activity in the cold north with longer periods of rest and sleep in the warmer south. Therefore, they function best in situations that allow them to work hard for sustained periods and then rest for equal amounts of time. Belugas tend to be attracted to positions where they can set their own schedule, such as in the native communities or in non-sedentary scientific or Incorporate positions that have deadlines without fixed routines. As a result, they make good reporters, authors, prospectors, and researchers.

In addition, belugas are such good singers, speakers, and gesturers that they are highly sought-after performers in the Church of Whalesong Theogony. They also use these talents in other capacities: Bels make charismatic leaders, engaging teachers, and convincing con artists. Some are even full-time performers, whether as nightclub musicians, echo/motion dancers, or visual artists.

Pilot Whales

Because of their strong, human-like family ties and stable pod structure, pilots seem the most conservative of the cetaceans and are the least comfortable with change. It may seem odd, therefore, that these docile community-focused whales so commonly enlist as GEO Peacekeepers. However, the clear and stable hierarchy of the military is a comfortable reproduction of the orderly, fixed nature of their calfhood pods, making the transition into the GEO quite natural for young pilots. The GEO finds the pilots' unquestioning acceptance of authority, extreme loyalty, facility in learning new tasks, team mentality, and calm nature perfectly suited to certain military roles.

The only issue pilots typically have with serving in the military is when transfers require them to leave their pods. Pilots take a long time to adjust and will sometimes exhibit erratic and unreliable behavior under the stress of frequent change. The GEO has found that pilots are more effective when they are left in the same pod throughout their careers and reassigned as little as possible. When they are relocated, the GEO intentionally transfers the pod as a group. Pilots dislike risky or violent situations and therefore are most often found in rear echelon jobs such as maintenance, transportation, food service, remote operations, weather services, and construction.

The GEO also values pilot abilities in establishing new colonies, serving as liaisons between native communities and the colonial administration, and scouting and exploring new colony sites. Their level heads and reluctance to resort to violence also make them excellent patrol officers. Pilots' non-confrontational nature makes them excellent mediators in situations ranging from labor disputes to hostage negotiations. A pilot paired with a clever fin makes for a formidable arbitration team—the fin coming up with the solutions and the pilot framing them in the most persuasive ways.



Pilots make excellent Incorporate employees for many of the same reasons that they are attractive to the GEO. Also, pilots can easily take on Incorporate jobs without disturbing their pod structure. They make very reliable, unambitious, often life-long employees who are satisfied to remain in the same position their entire careers.

Orcas

Orcas are most comfortable functioning in a hierarchy with clearly defined roles and rules. Many of them have found satisfying work in the military as well as other well-structured Incorporate and GEO organizations. They also do quite well in underwater technology development, exploration, and other types of field research in which they can serve as technicians. They work best in teams since they are uncomfortable with solitude and independent thought. They also like situations that involve a certain amount of risk and variety.

MILITARY SERVICE

Whales enjoy many opportunities in military service with the GEO, the security services of the Incorporate states, and the military forces of independent governments. Cetaceans typically act as part of light or

heavy combat teams. Light combat teams are composed of swimmers including cetes, human aqua-forms, gill-equipped divers, and an array of small remotes. Cetes carry fewer arms than their human counterparts, but they can maneuver with greater speed and stealth and are usually more cost effective for organizations with limited resources. Heavy combat teams usually include submersibles and the occasional surface vessel. What they lack in stealth and maneuverability, they make up in arms and armor, making them also more expensive to maintain and operate.

Within the Ranks GEO

Cetaceans have been involved in military operations since the initial experiments by the navies of the United States and the Soviet Union in the late 20th century. While genlifted whales are often resentful of those former practices, many still find the structure of the military to be their most comfortable fit in the dominant human culture. Owing to its more eco-friendly origins, the GEO has employed genlifted whales since its inception in 2100.

Cetaceans typically serve under the Naval Command of the High Commission for Armed Forces.

Many also serve with the Peacekeepers as front line or support units and are relatively common troops on Poseidon. There are also a few cetaceans serving in the Aerospace Command, usually as pilots and crew of large transport ships and patrol boats. Their innate abilities make them able spacers; however, the weight and expense of their life support equipment precludes the space deployment of all but the most talented individuals. Due to the general cete reluctance to undergo substantial cybernetic modification, there are currently only three cetacean shock troopers on Poseidon. These soldiers are in high demand and are often assigned temporarily to various military operations.

Incorporate

Cetacean participation in Incorporate military forces is primarily dependent on corporate policy as a whole toward their species. Most incorporate boards of directors, or at least their security chiefs, recognize the advantages cetaceans offer in underwater security and combat. Many Incorporates do not allow cetaceans citizens, and most of those who do have only small cete populations. Those Incorporates with a notable cetacean presence in their security forces include Hydrospan, MacLeod Enforcement, Biogene, and Anasi Systems. Other Incorporates, through contracts with MacLeod, may have cete soldiers in temporary service.

Native Resistance

A significant number of native and newcomer cetaceans actively take part in the growing native resistance. Cetaceans hold central roles in such groups, comprising the war pods of the Sierra Nueva Cluster, Blue Water Circle, and Free Poseidon! The NRM also uses many cetaceans as security troops and enforcers. Their roles in the various organizations of the resistance are similar to their roles in other military organizations. However, because such groups often lack equipment and vehicles, the ability of cetaceans to carry and deliver heavy weapons is markedly more important.

CRIME

Because cetaceans have little use for most material goods, they are not as drawn to crimes of financial gain as some humans. However, there are cetaceans who seem to view criminal activity as a valid alternative to traditional, legal work. These criminally

minded cetaceans are in it for the money, which they are likely to spend on top-of-the-line equipment, longevity treatments, or interstellar passage just like non-criminal cetes do.

Many criminologists feel that the nebulous sense of ownership demonstrated by most cetaceans frees them of the normal compunctions for theft. Ambiguity about theft then serves as a gateway to other crimes such as embezzlement, extortion, data hijacking, piracy, and even contract murder. Much cetacean criminal activity involves smuggling, a task for which cetaceans are uniquely well suited. Their ability to move stealthily through the water even while towing a sizable load can be a definite advantage in evading the authorities. Pilot whales rarely become criminals, but occasionally one turns out to be a wily embezzler playing on the common belief that pilots lack intelligence and independent thought. Such individuals might work quietly and methodically for years until they learn every subtlety of an organization, then disappear one night leaving nothing but a large hole in a company's bank account.

Some cetes have found places in the planet's human-led criminal organizations, such as the New Rastafarian Movement and the Gorchoff Family. Traveler is an orca tour guide at the Deepsea Park in Kingston who is also a well-known NRM chief. He is a superb information-gatherer who has become quite influential with the NRM elders. He keeps an eye out for new talent and has provided opportunities for many capable young whales to make their way into the Movement. In contrast, very few cetaceans have become involved with the Gorchoff Family's operation. The Family is far more insular than the NRM and tends to distrust outsiders, not to mention other species. However, a few able fins have managed to prove themselves trustworthy enough to work their way into the organization.

Because most cetes are shut out of the Gorchoff organization in Haven, a few enterprising fins have quietly put together a cetacean-only underworld network there—a group the media call the Submariners. The organization specializes in smuggling data, weapons, and personnel, and maintains a growing circle of contacts throughout the Pacifica Archipelago.

The majority of cetacean criminal activity is of a less self-interested nature. For instance, a large vigilante pod operating around New Hawaii called shiny/soft/swimmer/hunter/killer has taken the pun-

ishment of sunburst poachers into their own jaws. Poachers caught by this pod are lucky to escape with their lives. The first stories of bloodthirsty orcas protecting sunburst herds were hard to believe, but credible footage from a recovered sensory recorder has made the rounds on CommCore. The GEO Justice Commission's statistics department has noted a steep drop in poaching and poaching-related activities in the New Hawaii region.

Other whales have been driven to more extreme criminal acts in defense of their promised land. Some of these individuals want to drive newcomers off the

planet altogether before the colony becomes another polluted ruin. The natives in the Sierra Nueva Cluster are the most infamous and ambitious of these groups. Led by their orca leader Bataku, they have effectively declared war on GenDiver. Cetaceans make effective ecoterrorists as they can travel so easily and secretly over most of the planet's surface. They can forage while on the go, adapt readily to nomadic lifestyles, and their movements are easily hidden, as they do not require land-based camps with cook fires and shelters.

HYDROSPAN

HISTORY

Trode technology revolutionized the way humans interfaced with electronics. It is therefore not surprising that after the genlift of cetaceans in 2042, a race of sorts began to be the first to produce a comparable technology for cetaceans. The marine environment proved a difficult obstacle in translating the cetacean brain's electrical field into a discernible digital signal, however, and the project stalled until six second-generation dolphin engineers experimented with sonic rather than electrical impulses. The result was the first sonic trode. Strictly speaking, this new technology was not as efficient as its electrical human counterpart, but the leap in computer interface potential among cetaceans—for whom the traditional manual interface was clumsy if not impossible to use—was a marvel not paralleled since their genlifting.

When the patent for sonic trode technology was awarded in 2058 to the team of dolphin engineers who created it, the scientific community witnessed a second marvel: All profits and license revenues from the patent were redirected into ongoing research for further application of the technology. The six inventors themselves claimed no financial gain from their efforts and seemed to work purely for the joy of problem solving. Following their subsequent production of the first CICADA, the patents for which multiplied their revenues by a factor of 10, technology reporters on CommCore began calling them the Delphi Six. Though many assumed the nickname was owed to their unique vision and intuitive problem solving, in fact it was a tribute to dolphins' love of puns—the Greek root of dolphin is delphis.

The world of cetacean engineering took a dramatic leap forward when the Delphi Six received

an unlikely contract offer from the United Nations in 2066. An international plan to seat a permanent space station on Ceres in the asteroid belt had gone over budget due to the high cost of construction and resupply, prompting the UN to solicit alternative solutions from leading scientists. At a time when humanity was still growing accustomed to the idea of thinking dolphins, many decried the inclusion of cetacean engineers as a purely political gesture. But the UN offer was genuine. The director of the United Nations Space Agency cited the Delphi Six, who had used their own echolocation to bridge the digital divide, as experts in efficiency through the conservation of resources. If anyone could make the Ceres project cost-effective, he argued, it would be those who knew how to maximize what they already had.

While the opportunity to broaden their scientific focus was eagerly welcomed by the Delphi Six, it also produced some unexpected problems. Given the tremendous competition within the corporate world for government moneys, the UN's consultation of independent researchers met with a great deal of resistance from competing bidders like Atlas Materials and SilverStar Manufacturing.

Atlas executives argued that despite their previous innovations, the dolphins lacked the industrial infrastructure necessary to meet the UN's needs. Less diplomatic voices at SilverStar insinuated that cetacean brains, even genlifted ones, were incapable of conceiving such large-scale, extra-planetary projects. Adapting sonic trodes and CICADAs from existing human-produced technologies was one thing, they sneered; dolphins in space was quite another.

While their Incorporate competitors were arguing with the UN, the Delphi Six were diligently con-

structing plans to use Ceres' mineral wealth for the permanent station's ongoing material needs. Bulkheads fashioned from iron and nickel deposits, while thicker and less sleek than bioplastic equivalents, proved relatively inexpensive to produce. Numerous hydrocarbon veins running throughout the asteroid could also be refined to fuel the station's fusion reactor. Given adequate water conservation, hydroponics could even be used to recycle the outpost's oxygen supply. When the Six presented their proposal to the UNSA the following summer, one which cost just over a third of Atlas' total projections, the General Assembly not only awarded Delphi the contract, they passed a resolution to rename the station in their honor.

Unfortunately some of Atlas' and SilverStar's anti-cetacean propaganda proved a reality. The Dolphin engineers had created a fantastic design but seeing it to fruition would require the help of human laborers and foremen and a system to manage them. Thus, in 2068, ten years after winning their first patent, the Delphi Six incorporated themselves as Hydrospan, the first cetacean-owned company. The royalties from their collective intellectual property and their new contract with the UN provided the necessary capital to hire a small but efficient human workforce.

It would have been like the birth of any other company except for the founders' uniquely non-human work ethic: those who entered Hydrospan's employ received a share in the company's ownership in addition to a regular salary. The former amazed a human workforce unaccustomed to such managerial generosity; the latter amused their cetacean leaders who had little appreciation for personal material wealth. Ultimately the relationship proved a lucrative one and it did not take long for Hydrospan to lure progressive cetacean and human scientists away from other corporate labs with the promise of communal resources for all citizens.

The early partnership with the UN to complete the Delphi Station led to numerous other contracts, including extensive consulting work on the Athena Project. Hydrospan designed and manufactured many of the surface and underwater vehicles for the human colonists and almost all the technology intended for cetacean mission members. Their research during the Blight and subsequent relationship with the GEO has helped to make Hydrospan one of the most widely respected and productive Incorporate states in the twenty-second century.

ECONOMICS

Despite its tremendous financial success, Hydrospan's citizenry remains fiscally humble. Though most human employees prefer to invest their earnings outside the Incorporate, some have joined their cetacean colleagues in perpetual reinvestment and communal living. Their assets remain a part of Hydrospan's collective holdings in exchange for food, lodging, education, healthcare, entertainment, and security. In effect, they are part of a giant multi-species pod.

As dolphins and whales are almost entirely unmotivated by financial gain except as a means to an end, the cooperative ethic of the cetacean community has remained the paradigm for Hydrospan's economic policy. While many economists marvel that the company can stay financially afloat given its employees' total lack of profit motivation, others have begun to study the Incorporate's unique success. A growing number of voices in the nascent field of Dolphinomics posit that Hydrospan's commercial growth and apparent internal harmony cannot be attributed exclusively to a purely altruistic economic model. On the contrary, these theorists assert traditional capitalist philosophy has transmogrified the primal cetacean pod mentality into a unified profit machine. While individual Hydrospan citizens may not seek personal gain, the collected citizenry move ever closer to economic dominance over other Incorporate powers.

Those who espouse the theory of Dolphinomics point to several key practices among Hydrospan's employees which serve the Incorporate's financial interests. The first and most obvious is the company's virtual monopoly over cetacean technology. From CICADAs to zero-g thruster packs, if it enhances a dolphin or whale's life electronically, sonically, chemically, or medically, it was designed and manufactured by Hydrospan. To have control of any market is lucrative; however, it is not simply a line of products that Hydrospan controls but rather every product routinely bought by any cetacean. As most whales and dolphins purchase only technological and medical goods, the vast majority of cetacean income is regularly paid to Hydrospan.

Given the volume of cetaceans in Hydrospan's employ, this monopoly makes for a kind of incestuous profit wheel. The more technology employees buy, the more assets the Incorporate accrues, the more its employees are worth, the more they can

buy. Further, communal assets do not pass on within a family from generation to generation. An employee's share of the Incorporate is absorbed upon his death and redistributed. Cetaceans seem to think of this practice as communal responsibility and common sense. Those on the outside who have made a study of the Incorporate's success see instead a work of economic genius that would have pleased both Karl Marx and John D. Rockefeller.

Finally, Hydrosan's collective wealth grants its leadership vast resources to draw from and incredible freedom to maneuver through the corporate world. Where most CEOs and boards of directors are beholden to their stockholders for approval of major purchases, investments, and developments, Hydrosan's leader—whose unofficial title of Oracle pays homage to the founders—can liquidate assets and acquire new ones as he sees fit. The lack of checks and balances on the Oracle's authority baffles his human counterparts. There is no documented restraint imposed by the company charter on his allocation of funds, leading many human employees to wonder what would happen if an unscrupulous leader ever rose high enough up the Incorporate ladder to take over.

Whatever claims are made about Hydrosan's curious corporate structure and fiscal success, most economists agree that much of the credit lies with its current Oracle, a long-lived fin named Steward. Combining a philanthropic heart, an environmental conscience, and an almost human mind for business, Steward's true acumen is playing on both sides of the corporate fence. He is revered by all within the company as the most benevolent and efficient leader in Hydrosan's history. Outside, he is universally respected—some would say feared—by the leadership of the other Incorporate.

Stewardship

Despite the cultural handicap cetaceans face when it comes to money management, Steward, the long-time head of Hydrosan, stands out as a notable exception. His name says it all: he sees his primary goal as protecting his company's resources only to protect the interests of its citizen. The best analogy is that Steward sees Hydrosan as a massive super-pod of which he is the dominant member.

As a result, within the company, the cetacean cooperative ethic prevails. However, what is most remarkable about Steward is his ability to compete

in the human marketplace on human terms. Largely without compromising his cetacean ethics, he manages to keep down costs, anticipate and generate demand, and maintain productivity—all while carrying out numerous philanthropic efforts. Some Incorporate leaders see these very public charity efforts as a subtle and uniquely successful marketing campaign. Others consider Hydrosan's current profitability only temporary, claiming that Steward's idealistic practices cannot long succeed in the real world.

Steward has begun looking for a successor and feels some concern that the few likely cetacean prospects have limited strengths—either they can run the company well from within, or else they are savvy in the human marketplace, but not both. His best choice for a successor is a dedicated and effective human named Rodney Murphy. Steward is concerned that many employees would be deeply offended by his selection and would refuse to accept a human leader.

Office of Whalesong Affairs

Every significant Hydrosan settlement, facility, or installation with a significant cete population includes an Office of Whalesong Affairs, as the church is as integral to the cetacean community as the Incorporate itself. Church leaders work closely with Hydrosan personnel to keep the company management informed about cetacean needs and concerns. Hydrosan in turn makes large donations to the church to pay for construction, maintenance, sound equipment, outreach programs, and other expenses. Hydrosan is also generous with other kinds of help, including tools and personnel, information access, and political influence.

DEMOGRAPHICS

As noted above, Hydrosan is the single largest employer of cetaceans on Poseidon. Nearly 4,000 common and bottlenose dolphins, 300 orcas, and another 50 bels and pilots make up the wholly aquatic branch of the company's workforce. More than half of these numbers are residents of New Fremantle with the rest scattered about Hydrosan's other branches or working closely with the GEO or Incorporate allies like Lavender Organics. Complementing their cetacean colleagues, around 20,000 humans also work for the company. Of these, roughly eighty per cent are natives, making Hydrosan the largest employer of natives as well.

COMMUNITIES

NEW FREMANTLE

Despite their physical predisposition to Poseidon's environment, cetaceans remain a minority among the water world's natives and colonists. There are a few places, however, where whales gather in sufficient numbers to make their presence known and even one or two where theirs is the dominant culture. Nowhere is this more true than in New Fremantle, Hydrospace's primary company town.

Located in the northeast bay of Sotavento, one of the Zion Islands along the Poseidon Antilles, New Fremantle is an almost entirely waterborne community. But unlike predominantly human cities like Dyfedd, Hydrospace's crowning achievement in marine habitat engineering and construction is a fully integrated human and cetacean settlement. Residential areas for all species are not separated by vast distances or contrasting aesthetics.

Both humans and whales live in a miraculous central dome called the Surge, an engineering marvel to rival any wonder on Poseidon. Loosely connected by a surrounding bio-engineered reef, five other floating habitats also offer integrated work environments where Hydrospace employees, regardless

of species, collaborate on the Incorporate's cutting edge research, development, and production. From its stunning design to its cultured diversity, New Fremantle is a model city for the coming century.

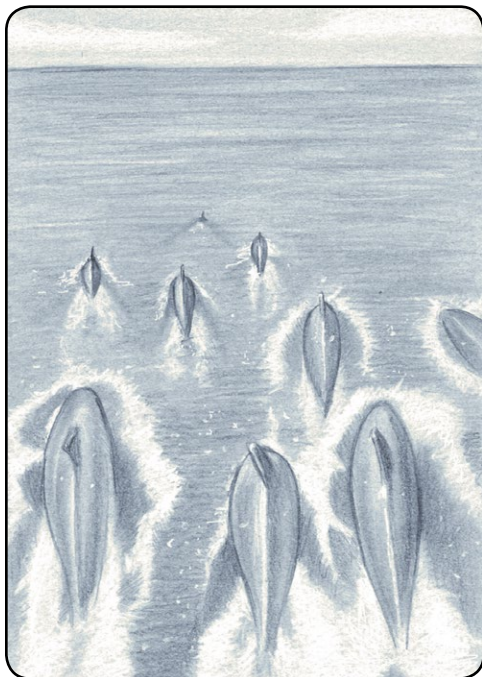
The Founders' Rings

The city's superstructure, built upon, within, and below six permanent rings, is a study in variation. The rings measure from 100 meters to two kilometers in radius. Some are only partially enclosed while others form complete loops; some are entirely waterborne while others are partially attached to land along the Sotavento coastline; some are permanently moored to the engineered reef below the surface while others are free floating. Although the number of rings is a function of available space within the bay, many have noted that six is also the number of sentient species employed by Hydrospace, as well as the number of dolphin engineers who formed the company in 2068. Owing to the latter observation, they are sometimes referred to as the Founders' Rings.

The Sentinel

When visitors approach the city from the west, the first ring they encounter is a semicircular shield wall at the center of which stands a 20 story lighthouse known as the Sentinel. Underwater tethers keep the outer ring at an even radius from the central tower, forming the spokes of a wheel that rotates counterclockwise one full revolution every 30 hours. The city engineers wanted to create a gateway into New Fremantle that symbolized its parent company's commitment to diversity, new perspectives, and an ever-open front door. The ring moves too slowly for the naked eye to catch, but every hour it affords the lighthouse a new view of its surroundings.

In addition to serving as a welcome beacon for New Fremantle's visitors and immigrants, the Sentinel houses Hydrospace's headquarters on Poseidon. The spire's massive underwater trunk contains all the Incorporate's governmental offices as well as myriad suites for its cetacean executives. Ironically, the most humble of these is the Office of the Oracle, which sits right at the surface level. Most of the time Steward may be found here, though his consciousness is likely focused elsewhere in the city—he maintains more than 20 remotes at a time, scattered throughout the Sentinel or conversing with colleagues in



other rings. Just above water level, the second and third floors of the upper tower open up into a host of private telepresence conference rooms and a large, open hall that serves as a virtual boardroom. Here all of Hydrospan's leaders, human and cetacean, can assemble via remotes and holographic projectors to discuss matters of Incorporate strategy and direction. The remaining levels of the spire, which climb high above the surrounding shield wall, provide space for the Incorporate's human accountants, marketing agents, and analysts.

In order to promote New Fremantle's cooperative work ethic and its diverse, nonexclusive image, the ring surrounding the Sentinel houses all the city's non-Incorporate offices. Here, the GEO maintains training facilities for its cetacean peacekeepers, research laboratories for joint GEO-Hydrospan projects, and most importantly the Office of Colonial Affairs' Cetacean Citizens Council. Also housed in the gateway ring are the offices of MacLeod Security, which keeps vigil over the city. Although New Fremantle contracts out the physical aspects of their law enforcement, each patrol unit is overseen by a company officer who reports directly to Hydrospan Internal Security in the base of the central tower.

H-Cubed

Just south of the Sentinel is New Fremantle's South Bay. The seven-square-kilometer bay is bordered to the west and south by the Sotavento coast where numerous native communities and small businesses have cropped up to take advantage of the Incorporate's proximity. A bio-engineered reef that acts as a breakwater for the enclosed city beyond demarcates the eastern edge of the bay. In the southwest corner of the bay sits Hydrospan Harbor and Hoverport, the second of the city's founders' rings. HHH is a veritable hive of moorings, docks, airlocks, and hoverpads. Like the Sentinel, the harbor is a semi-circular ring surrounding a central shaft. But HHH is completely anchored to the bay floor, forming an enclosed cul-de-sac 20 meters deep and extending another 30 meters above the surface. There is enough room within the harbor to secure 20 submersibles, 200 surface craft, and 50 VTOL aircraft. As much of the city's permanent population and tourism business swims in under its own power, HHH is most commonly called upon by merchant craft. Much of the outer radius of the ring is therefore reserved for warehousing and storage.

The Sharehouse

Innovation and collaboration have long been Hydrospan trademarks. From their early work with sonic trode technology, the founders believed that any idea could be improved upon; they also believed that pride rather than any gap in technology was the greatest impediment to innovation. Hydrospan therefore stresses cooperative thinking and group production over individual expressions of genius. Nowhere is this more evident than in the Sharehouse, Hydrospan's center for Research and Development.

Its half-kilometer circumference equally divided over land and water, the Sharehouse ring accommodates more than 2,000 scientists. Each of its 10 circular floors boasts more than 10,000 square meters of laboratory space, making it the largest single building dedicated to research on Poseidon. But more impressive than its size is the facility's spiral design. Though the ring's directory does indicate 10 floors, it would be more accurate to think of them as one continuous spiral stairwell rather than distinct levels unto themselves. Climbing counterclockwise from the ground floor, each lab is one meter higher than the previous and covers 100 meters, or one fifth, of each ring's circumference. Every five labs, the facility laps back on itself—the ground floor becomes the second floor, then the third, and the fourth, and so on. Similarly, it descends clockwise beneath the water's surface and into the ground for three submarine-subterranean levels. The result is an incredible five kilometers of continuous research space.

Each separate lab section levels out and meets a one meter, step-like half-wall at its upper end, allowing for level floors. Open pathways cut through the middle of each lab, and short flights of stairs and shallow ramps connect each section. A bank of personnel and cargo elevators run up the inner edge of the spiral, with stops on each ring. Despite these practical concessions, the looping structure is wide open and succeeds in its intent of fostering communication and cooperation between neighboring teams.

The most impressive feature of the spiral design is a three-meter-wide, open sluice that runs from the top of the coil down along the outer wall. Two million gallons of seawater are pumped to the top of the sluice every hour and flow around and back down into the bay, allowing cetaceans access to the entire building. Every 100 meters, an inclined sluice gate opens from the channel into a shallow pool where

whale engineers can work side by side with their human colleagues. Even the submarine levels may be accessed from the water through a series of water locks. As its name suggests, the Sharehouse offers a fully integrated environment for all its researchers.

At the center of the research complex is an 800-square-meter atrium known as the Eye. Half beach and half bay, the Eye serves as a recreational area for the whale and human scientists to escape their labs and commune with one another informally. It is not unlikely for a third of the facility's scientists to be here at any moment, playing games and amusing each other. While other Incorporates might view it as the world's largest break room—not to mention a waste of resources and productivity—Hydrospan sees the Eye as integral to the spirit of innovation. What time is lost here to play is made up for in heightened efficiency when the staffers go back to work. It is also rumored that many of the company's technological breakthroughs actually happen here while the scientists' conscious minds are diverted, allowing their unconscious minds to focus on unsolved problems.

On the subterranean-submarine levels of the Sharehouse, Hydrospan scientists are developing new marine habitat technology for more integrated underwater human-cetacean communities. Given the paucity of surface area on Poseidon, the Incorporate believes fully submerged habitats are the next big wave in construction; marine engineers are attempting to create a semi-permeable, amphibious bioplastic that will draw oxygen directly from the oceans like aquaformed gills.

In an attempt to find a more efficient means of cracking hydrogen than electrolysis, experiments are underway to genetically modify certain species of algae to respire hydrogen instead of oxygen. Within the next few years, the technology promises to create a self-renewing fuel cell that need only be refilled with water and given access to sunlight.

In an age of increasing espionage technology, the push to find failsafe modes of communication has spurred Hydrospan researchers to examine pheromone technology. Emitting a relatively small quantity of specially engineered short-lived pheromones into the open sea, brief messages may be relayed to nearby pheromone receptors without the possibility of the signal being blocked or diverted. Authenticator codes preclude the reception of inauthentic messages, and the multitude of particles ensures

the nearly infinite redundancy of a given transmission. So far, the technology is only adapted to short distance, underwater use, but its performance has proved extremely reliable.

The Womb

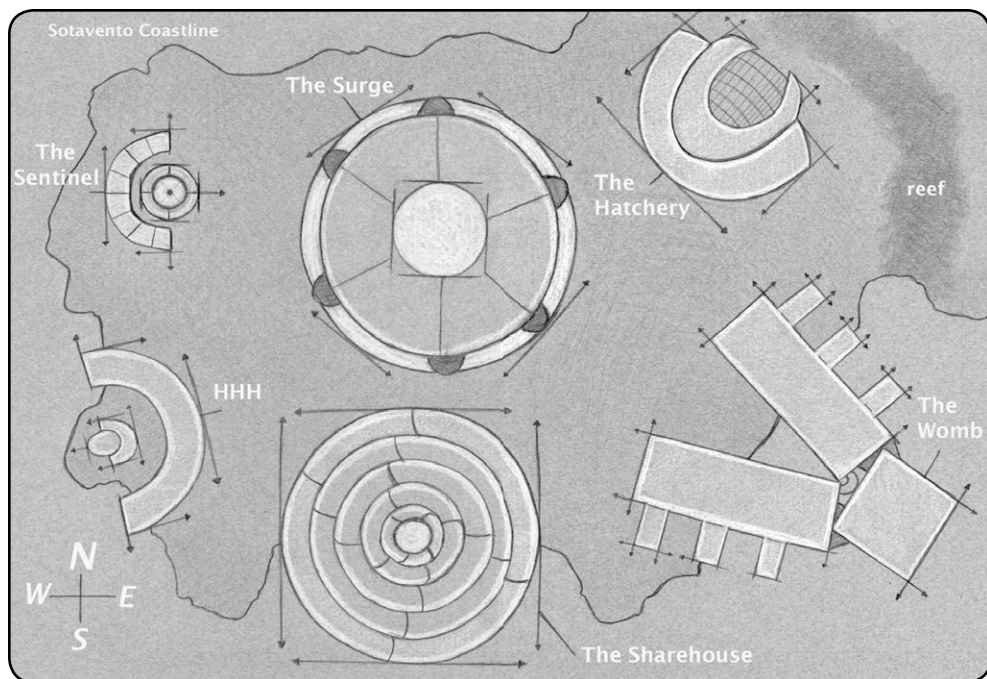
While most of Hydrospan's research and development takes place in the Sharehouse, the implementation and production of its successful technologies continues next door on another founders' ring called the Womb. From watercraft to marine habitats to communications to non-lethal weapons, all the Incorporate's manufacturing operations in New Fremantle are conducted in this massive industrial workhouse. It even has a full service, water-accessible medical facility. Officially named the Marcos Gottfried Memorial Medical Center, the locals just call it "the Vet." Here cetaceans and humans alike can undergo outpatient or extended-stay medical care and biomodification.

The least ring-like of all the founders' rings, the Womb boasts an almost crystalline floor plan with several arms branching out from two main wings. The northeastern wing oversees underwater equipment and habitat construction while the southwestern wing contains assembly lines for bioengineering and cetacean technologies. Six external shipyards for the building of submersibles, water sleds, hydrofoils, hovercraft, and jumpcraft surround the complex, ensuring maximum efficiency in the use of space.

The Hatchery

On the extreme northeast tip of Sotavento Island, the fifth founders' ring—called the Hatchery—is the home of Hydrospan Aquaculture. Surrounded on three sides by the ring's permanent walls and on the fourth by the city's protective bio-engineered reef, the Hatchery's central bay contains three massive kelp forests and seven enclosed pens for fish farming. The ring itself, a semicircular superstructure of transparent bioplastic, serves as a three-kilometer-long, horseshoe-shaped hydroponics greenhouse, complete with an apiary for natural pollination and honey production.

Outside and above the ring, a hemispherical mesh grate covers the crescent-shaped greenhouse with a lattice of birdcages for the cultivation of several species of domestic fowl. Ingenious incorporate aquaculturists have managed to squeeze food production into every last cubic centimeter of the ring. Between



its hydroponics produce, kelp forests, bee and fish farms, and poultry industry, the Hatchery provides most of the food needed to feed New Fremantle's human citizens and a fair number of the cetes who choose not to hunt on their own. Witnessing the splendor and density of the Hatchery's resources is perhaps the closest humans can get to understanding the awe whales feel at their first sight of Poseidon's oceans.

The Surge

Every structure in New Fremantle inspires a kind of awe. From the elegant spiral of the Sharehouse to the majestic turret of the Sentinel, each of the founders' rings contributes a singular beauty to the city's uniquely organic seascape. And yet all of these marvels pale next to Hydrospan's crowning achievement in marine engineering, a triumphant *pièce de résistance* simply called the Surge. Named for the swell of ocean water at the center of a cyclonic, the Surge elevates the bay almost 50 meters above sea level within a massive bioplastic dome. The dome itself is transparent, allowing the city's whale population a unique opportunity to swim above the ocean's surface and look down on the city without ever leaving the water. The shell covers more than a square

kilometer of the bay and extends another 30 meters below the surface where it is firmly anchored into the bay floor. Six industrial MHD pumps keep the dome full of water, and submarine locks allow access from the bay to and from the interior bubble where most of the city's cetes maintain their permanent residences.

Beneath this massive water-filled umbrella is a city unto itself. The equivalent of fifteen city blocks of cetacean habitat columns and deep-rise apartment buildings dot the bay floor. Here, New Fremantle's 15,000 human citizens live alongside their cetacean coworkers in bubbles within a bubble. Humans enter their habitat structures via a number of transparent tubes that access the outer surface of the dome at sea level. Aquaform or gill pack wearing humans can enter via air locks in each complex. Whales enter their cete specific habitats via open passages that lead to each apartment's open moon pool. The transparency of each apartment shell can be individually adjusted from clear to opaque as per the occupant's preferences.

Fresh air is pumped under the dome to vents along the bay floor where it bubbles up into a spiraling series of large, clear, conestoga-like reservoirs spaced around the volume of the dome. These air traps create surfacing pockets in which cetes can breathe. The

placement of the reservoirs is such that the excess air constantly bubbling from beneath each trap rises in glittering streams up to one or more higher reservoirs. In this fashion, air slips upward from reservoir to reservoir like an inverted champagne fountain with rising bubbles instead of cascading Dom Perignon. The system of bubble cataracts is one of the Surge's visual marvels and makes sufficient noise that whales anywhere under the dome can always locate a nearby source of breathable air. No where else on Poseidon are artistic form and function so seamlessly integrated.

The Apex Gate

A large valve system at the dome's apex vents the rising air when it reaches the top of the structure. Most think the similarity of the periodic venting to the misty blow of a surfacing whale is not just architectural coincidence. The gate is also a safety feature: In the event of a catastrophic system failure, the valves open completely and the MHD pumps shut down, allowing the water to flow out through the pumps and back into the surrounding bay. In such cases of emergency, the water within the dome can be dropped to sea level in just 23 minutes.

There are large yellow safety grills over the entrances to the city's MHD pumps, but the spans are large enough for thrill-seeking dolphins—and intrepid humans—to slip through. Such adrenaline junkies ride the raging current through the curved pump shaft and up into the waters of the Surge. The trip is a dangerous and uncontrollable rush that cetes say is akin to storm surfing. The practice is forbidden by city regulation, but the fines mean little to adventuresome humans and even less to fun-loving cetes. Some human riders have noted that the intense electromagnetic fields inside the pumps unfortunately wreak havoc with cybernetic implants.

The Apex Gate is also the official meeting place of New Fremantle's Whalesong congregation. The top of the dome provides an inspiring view of the city, the island, and the surrounding ocean, and the air from the bubble cascade that gathers at the vent provides a convenient breathing space for churchgoers. The view, air space, and its preeminent location combine to make the apex the perfect place to hold Whalesong meetings, events, and performances. There are not many scheduled Church events, but given the size of the city's whale population, one is always likely to encounter a songmaster or counselor

on any trip to the top of the dome. During larger festivals, the upper reaches of the Surge can become quite crowded. On the Day of Awakening, for example, as many as 4,000 cetaceans may gather to hear a famous songmaster. On these occasions, anyone hovering above the dome in a hopper will witness a most impressive sight: The entire congregation swims around the songmaster, interweaving clockwise and counterclockwise paths reminiscent of ancient May Day celebrations on Earth. Planetfall is even more dramatic, as aquaform humans join the ranks of whales in what has become the biggest annual party in New Fremantle.

Charybdis

For a primarily residential sector in a city with a cooperative work ethic, the Surge maintains quite a thriving economy. Retail stores, restaurants, and bars catering to all species can be found in almost every tower, and several resorts advertise posh nightclubs where tourists and locals can mix freely. Perhaps the most notorious of these is Charybdis, a fully underwater dance club and gin joint known for its interspecies pick-up potential. Gill suits or diving masks are required for non-aquaforms, and the incessant low frequency sonic bombardment from the "dance floor" is not for the faint of heart. Still, one hasn't danced until he's danced with a dolphin, and those who brave Charybdis are likely to have an experience they will never forget.

Delphi College

Finally, the Surge is also the chief classroom facility of Delphi College, an exclusively cetacean academy of higher education where whales can attend class physically rather than via remote, as they must do at most human universities. Classes in the social sciences and the mammalities—studies in the arts and letters of both human and cetacean masters—meet throughout the Surge, while hard science, engineering, and medical courses are conducted on site in the Hatchery, the Womb, and the Sharehouse. Early favorites among the student body are Professor Longsight's astrophysics lectures and Professor Harbinger's Melville seminar. Heavy enrollment is forcing the curators to expand their course offerings for next semester, and there are even plans in the works to open a satellite medical school in Second Try.

When Hydrospace set out to build a company town on Poseidon, it did so in the name of coopera-

tion and unity of purpose. In its pursuit to achieve a fully integrated population, the Incorporate has been able to accomplish what others have long thought impossible: whales and humans share New Fre-

mantle as they have never shared anything before. It is a city of sentient brothers and sisters who, while divided by species, are united by a common vision of one Poseidon.

PHILADELPHIA

Home is a human idea. And a primitive one at that. Our ancestors left the land eons ago for the freedom of the water. They shared the vast reaches, swam free of the twin nets of territory and ownership. The ocean was the only home we needed before the Awakening, and it's all we need now. Those fins at Hydrospace have built themselves one hell of an underwater city, but it's still just an aquafied monkeyhouse. When are we going to stop aping our so-called benefactors? They polluted our first home and they continue to pollute our second. Why should we endure their presence, let alone their way of life? Integrated living is for the birds: Let 'em genlift a few thousand sea ghouls to fill their cages. Me, I'm happier out here between the devil and the deep.

—Peregrine, beluga satirist and propagandist, excerpted from insurgent recruiting speeches

LOCATION

To the naked eye, the native insurgent community of Philadelphia is nothing more than an average-size weed raft about 500 kilometers south of the equator at about 13.5° west longitude. Currently wedged between a small island and a shallow reef, the 400 hectare sargassum island is a microcosm of Poseidon's flora and fauna. The raft boasts a tropical forest that covers nearly half of its surface, and three freshwater lagoons support a diverse ecosystem of small mammals and dozens of bird species.

HISTORY

When it became evident that the resupply ship was not coming, many of the original cetacean colonists earned a new found appreciation from their human neighbors. Not all whales enjoyed the attention, however; some even resented the dependence of humans whose fellows had left them to die on a world to which only cetaceans were truly adapted. Many in the latter group took to the seas and never returned. One such group, a small pod of fins whose names are long forgotten, headed north toward the western reaches of New Hawaii. Here they discovered a small sargassum island growing in the lee of a tiny archipelago.

As the pod grew, the members began to long for the companionship of more than just their small group. In what seems a remarkable and unlikely coincidence, the raft eventually worked free of the entrapping rocks and the small pod was compelled to go with it. Carried southwest by surface currents, the raft eventually regrounded in the Sierra Nueva

Cluster where scouts from Bataku's burgeoning Baffin Island settlement encountered the maverick pod. Wary at first, the two communities exchanged knowledge and aid, establishing a long and mutually beneficial friendship. Bataku dubbed the drifting raft community Philadelphia to commemorate the joining of the groups.

In the years since the first encounter, the currents have pushed the sargassum island deeper into the Sierra Nueva Cluster, and the interdependence of the two communities has only increased. Philadelphia enjoys a healthy trade with Baffin Island and serves as a retreat—and often a refuge—for many of the native settlement's more militant members. As the guerrilla war with GenDiver has escalated, the native insurgency in the Sierra Nueva has found a powerful and hidden ally in Philadelphia. To even the most sophisticated Incorporate surveillance equipment, the weed raft goes unnoticed, and no surface ships or submersibles have so far been able to penetrate its camouflage. Because of its potential mobility and inconspicuous nature, the sargassum island has become one of the most prominent training camps, staging grounds, and hideouts for the native insurgency.

PHYSICAL LAYOUT

Owing to its primarily cetacean population, the whole of Philadelphia is underwater. The irregularly shaped sargassum raft covers 400 hectares of ocean surface and conceals an inverted forest of grass roots and kelp. The residents have cut channels through this mane and made clearings large enough for group

meetings, storage, and concealed sleeping spaces for calves and their mothers. Throughout the raft are natural and cetacean-made air pockets and holes to the surface that allow hidden surfacing, and much of the perimeter's root beard holds camouflaged lookout posts. The interior tunnels and caverns themselves are completely dark, and many of the island's residents retreat into the solitude of the large central chamber to sleep and sing the Whalesong.

This is not to say the island is entirely primitive in its structure. On the contrary, the leadership of Philadelphia is well aware of the necessity of combating advanced technology in kind. Passive sonar stations throughout the root forest watch for approaching submersibles and surface craft. Passive radar stations around the island's perimeter monitor nearby aircraft. Advanced signal masking technology conceals the island's sonar, radar, and heat emissions to keep it from satellite view. And, of course, there is a small but potent stock of weapons, power shells, CICADAs, and remotes. There is currently a plan in the works to mount several stolen MHD drives on the underside of the raft in hopes of gaining some degree of control over its movement and position.

More impressive, however, is the island's mysteriously accommodating nature. Despite the fickle currents of the surrounding waters, the raft manages to maintain its position with preternatural vigilance. The channels cut through the roots never seem to grow over, and the roots themselves have in places hardened into solid walls. Some of these walls, despite being half submerged, are even solid enough to support human residents in small, dry room-like caverns. There is much about the structure of the facility that baffles its occupants, but most Philadelphians consider these aberrations good fortune.

DEMOGRAPHICS

Despite its physical size, Philadelphia remains a relatively small community in order to keep itself concealed. A triumvirate of orca war pods guards the surrounding waters while common dolphin scouts range further for any sign of approach. Fins patrol the root forest itself and attend to most of the everyday chores. While there are a few members of the other genlifted species and a handful of permanent human residents, most of the population is comprised of just dolphins and orcas. In total, there are about 70 cetes and a dozen or so humans living in or around the Philadelphia raft.

GOVERNMENT

Philadelphia is not so much governed as it is overseen by a trio of matriarchs. Diver, an old bottle-nose, oversees the island's maintenance. Descended directly from the maverick pod's original matriarch, she has a preternatural ability to predict the weather, even by cetacean standards, and local legend claims she has somehow been responsible for moving the island on rare occasions to avoid storms. A younger fin called Melpomene is the lead songmaster of the Whalesong and has become the spiritual adviser for the community as a whole. The third matriarch, an orca named Castellan, monitors the colony's defenses and coordinates the scouts and war pod patrols.

Following Recontact and the subsequent corruption of Poseidon's pristine ecosystem by Incorporate powers, Philadelphia's matriarchs have grown more militant in their support of the native insurgency. Castellan has turned her war pods from strictly defensive units patrolling the waters around the island to daring open-sea raiders on Incorporate surface ships. The Baffin Island settlement is usually blamed for such attacks, an assumption that pleases both communities: Baffin Island maintains its reputation as a force to be reckoned with, while Philadelphia maintains its anonymity.

ECONOMIC BASE

Philadelphia is unique among all the sentient communities on Poseidon in its utter lack of any economic structure. The colony behaves as a sort of super-pod with the ocean and the sargassum raft's ecology providing everything they need for survival. The raft attracts abundant fish and most members of the community relish the hunt. Like their primal ancestors, the whales of Philadelphia are totally self-sufficient.

INFRASTRUCTURE

Despite its entirely organic construction, Philadelphia's continued anonymity requires certain defensive measures that cannot be provided for by the ocean alone. It is therefore occasionally necessary for Castellan's scouts and war pods to procure weapons, electronic sensory equipment, and other inorganic tools from outside sources. Some of this technology comes from the Baffin Island settlement, but the majority of it is seized from vessels that wander too close to the island. Though some humans might think

of this as larceny, the matriarch prefers to call these raids “missions of reallocation.” That the previous owners are often killed in the process is of little con-

cern to her: She is guarding the secrecy of the community, after all, and witnesses might direct more dangerous attention towards Philadelphian waters.

FEEDING HABITS

For most cetaceans, hunting is not a chore to procure food; it is a daily pleasure. It allows time for social bonding, playful acrobatics, training young, and for shedding the cares of genlified life. Native cetaceans and those who live or work in non-urban areas usually hunt their own food. These cetes might be field researchers, newcomer colonists, or Incorporate miners. Even those in urban areas catch their own dinner when they can, usually late at night and on weekends. Most whales like the exercise and much prefer fresh-caught food to restaurant fare or, worst of all, kibble, the high-density, non-perishable cetacean food alternative.

Cetaceans are not generally particular about their food in the same way humans are. They eat much larger quantities of food and do not generally like their food flavored or cooked because it ruins the freshness and texture of the fish. In any case, culinary efforts would be largely wasted on a cetacean

since his sense of taste is not nearly as acute as a human's. They are able to identify the sweet, sour, bitter, and salty flavors of the foods they eat, but with greatly reduced sensitivity because they do not typically chew their food and have a limited distribution of taste receptors.

HUNTING

Prey

Most cetaceans rely on echo/fish and jump-jump as their primary food sources since they are plentiful in inhabited coastal regions and relatively easy to catch. When farther from land, deep-water soft spurts are a viable alternative, though care must be taken to avoid the poisonous species. Trident fish also make favored meals, though they can be difficult to catch. Orcas hunt sunbursts in many regions but usually seek alternatives in waters where the animal's populations are threatened. As rites of passage and proof of physical prowess, orcas sometimes form hunting parties and go in search of larger, more difficult prey, such as bad mojos or even lesser whites.

Techniques

Cetaceans are clever and versatile hunters, often working together or with humans to make a catch. Sometimes they swim in tight circles to trap fish and force them to the surface. This technique is called pinwheel feeding. Other times they swim on their sides in shallow water and stun or even kill fleeing fish with powerful swipes of their flukes, throwing them as far as 10 meters into the air. Where there is a reef or seawall, cetes smack their flukes against the surface, driving schools of fish toward the barrier and corralling an easy catch. Sometimes they even drive fish onto shore, then deliberately beach themselves to gobble a few mouthfuls before squirming back into the water.

Larger groups will surround schools of prey fish, driving them together into tightly packed swarms. When the schools become dense enough, the oxygen within the swarm is quickly depleted and the fish become exhausted and confused. At this point



the pod takes turns feeding at will until everyone has eaten his fill. Techniques for catching the herded fish vary. Sometimes cetaceans rush toward the center of the school to grab as many fish as they can. Other times they dive underneath the school and drive upwards through the center, pushing the fish above the surface of the water and snatching them in mid-air.

Orcas use a pack-hunter approach when going after larger organisms. They are experts at hounding their prey and cutting off avenues of escape. Individuals typically alternate cutting off their target with closing in to bite at and harass it. Once the prey is injured or begins to weaken, the pod quickly closes for the kill. Lone cetaceans often employ hunting remotes to help them herd or drive fish. This technology is especially effective with smaller schooling fish and greatly reduces the amount of time and effort involved in a typical solo hunt.

Surfing and Hydroplaning

Surfing and hydroplaning are effective hunting techniques developed by primal cetaceans that are still used by their genlifted descendants today. These practiced abilities allow cetes to chase and catch prey in extremely shallow waters and to snatch prey from the edge of dry land. These hunting techniques are not without inherent danger, however, as mischance can strand a whale on the shore.

Using Echolocation to Stun Prey

Just as their primal ancestors once did, modern cetaceans can use their echolocation ability not only to find and track prey, but also to stun it, making it much easier to catch. Like Terrestrial fish, many of Poseidon's species are susceptible to powerful vibrations and can be temporarily disoriented by a close range echolocation pulse from a hunting whale. As a result, if a cete makes a successful echolocation roll while attacking vibration-sensitive prey like echo/fish, he gains a +2 bonus to his Hunting skill for that attack.

Hunting Times

Cetaceans feeding themselves solely by hunting must typically spend 50–60% of their daily activity period in pursuit of food—traveling to hunting grounds, scouting for prey, or actively participating in the chase. This means that hunters must spend between 7–10 hours every day procuring food. For

working cetes such time demands are prohibitive and so they must supplement their limited hunting time with commercially available fish. Unfortunately, especially for orcas, this can be rather expensive. For each meal a cete eats commercially, he may reduce his hunting time for that day by 3 hours. A cete may reduce his daily hunting time by half with an action value of +5 on a daily Hunting skill roll. Therefore, technologies such as hunting remotes can greatly increase hunting efficiency. Hunting in groups can reduce hunting times as well, as scouting and herding become more effective with increased numbers. For every five members in a hunting party the group may reduce its hunting time by 1 hour.

EATING OUT

Most urban cetaceans and any other whales who work closely with humans typically take on the human habit of eating three meals per day. They can, however, easily adapt to other schedules to fit the circumstances. For most meals, urban cetes unable to readily visit productive hunting grounds rely on bare-bones cetacean restaurants called fisheries. They offer a wide variety of raw seafood sold by the kilo. Cetaceans looking for a more elaborate social, human-like meal can visit a variety of more expensive cetacean-only and cetacean-human restaurants that cater to every taste.

Fisheries

Fisheries are unadorned eateries that range from shoreline kiosks where cetaceans are literally thrown their food to fully enclosed, half-submerged spherical shells with resting slings and a wait staff. They offer a variety of common food fish, and orcas can often obtain larger cuts of meat from lesser whites, schoolers, and mojos. Cetes prefer fresh fish, but sometimes fisheries have only frozen to offer. It costs a little less, but whales find it considerably less appealing. Live fish are preferred overall, and anything a fishery stocks live is quick to sell out. Though most humans find the idea repulsive, cetaceans claim to enjoy the sensation of still-moving animals sliding down their gullets.

Depending on the quality of the catch and local demand, fisheries sell their goods for one to two scrip per kilo. This can get expensive for orcas who may eat 40 or 50 kilos at a meal. Belugas struggling with their weight sometimes fill out their menus with vegetarian or soy products. They find this food unap-

peeling, but it is nutritious and filling while low in calories. Cetaceans generally do not converse or otherwise waste time as they eat. They talk with one another as they enter, wait, and leave, but when their turn comes to feed, they separate to occupy whatever slings or space is free. They quickly down their meals, then depart to wait outside for the rest of their group to finish up.

Restaurants

Cetacean restaurants are rare, since for whales the real social interaction is in the hunting, not the eating, which they prefer to do as quickly, simply, and efficiently as possible. However, cetaceans who are highly entrenched in human culture will sometimes go out to dinner with human companions or even seek out a more elaborate meal with cetacean friends and colleagues. Such places are designed around water access for cetaceans but fitted with walkways and sunken tables or platforms to accommodate human diners. Prices are much higher at restaurants than fisheries, ranging from three to six scrip per kilo depending on market price and location. Though rarer still, there are a few cetacean-only restaurants.

The food offered at cetacean restaurants is more sophisticated than mere raw fish, but most whales consider heavily prepared food an acquired taste. Menus often feature all-live food and, in those places heavily dominated by human culture, stuffed flavorings. The live food is usually presented in a shallow floating trough out of which the cete plucks his flopping meal at leisure. To create flavored dishes, a server brings a guest a floating platter of freshly killed

fish that he guts and stuffs with a variety of seaweeds and other garnishes. There is some debate about just how much a whale's limited sense of taste allows him to enjoy such food, and many more practically minded cetes think such restaurants are a waste of time and money.

Perhaps the most famous human-cetacean restaurant is Forepaugh's in Haven's Old Town, which offers a spectacular view of the Church of Whalesong Theogony from its second floor. The cetacean cuisine there is planet-renowned, though too unusual for some whales' tastes. Kingston's Catch of the Day is another well-known human-cetacean restaurant featuring sushi for both humans and cetaceans. Flukes in New Fremantle is probably the best known cetacean-only eatery. A meal there might include giant sushi rolls for an appetizer, seaweed salad, lesser white steak for the main course, and a pile of sweet roe for dessert.

Some humans have trouble at first sharing a table with cetaceans. Most cringe at the noise and efficiency with which cetaceans eat. In addition, more sensitive people cannot stand to watch whales snap up live fish and swallow them whole. By the same token, some cetaceans are uncomfortable sharing a table with humans for the first time. They find the thought of eating food that has been dead for days unhealthy. Moreover, they quietly chuckle at the human necessity of cutting up food into manageable bits and laboriously chewing each one. Most cetaceans also consider the human habits of lingering over their meals and conversing at the table a waste of good playing time.

PREDATOR AS PREY

Living in the water, cetaceans typically face greater indigenous dangers on Poseidon than human colonists do. The threat levels and sheer numbers of predatory species are simply higher than anything their primal ancestors ever had to deal with on Earth. Native cetaceans have learned by trial and error how to minimize many of these dangers and have carefully passed that knowledge on to their young. Conversely, newcomers are exceptionally vulnerable to the unfamiliar hazards of the water world and have to quickly learn to recognize and avoid the myriad threats if they are to survive.

Some of the most common predator threats include polypods, who grab with their tentacles;

blood hunters, who travel in large, voracious schools; pseudoeels, whose attacks are cunning and fast; and lesser whites, who stalk alone or, even worse, hunt in packs. A greater white is certainly a threat, but in most cases cetes are able to outmaneuver these lumbering giants.

Most cetaceans quickly discover it is easiest to simply avoid predators altogether and have become quite adept at identifying the characteristic sounds and other environmental cues that indicate the presence of danger. These might be as subtle as far-off grunting, pops, or the grinding of bony skin plates. They might also be as obvious as the panicked swimming of a sunburst herd or the conspicuous

absence of game fish schools. If predator encounters are unavoidable, cetaceans can be quite innovative in evading them. They might hide out in kelp beds, swim up rivers, hydroplane into the shallows,

or even strand themselves on beaches. Of course, armed cetaceans can simply counterattack by blasting predators with torpedoes and guns or by ramming them with their CICADAS.

MEDICAL CARE

Hospitals in Poseidon's larger settlements run swim-up clinics for examination and outpatient treatment of cetaceans. In smaller towns, medics are forced to make "dock calls" or examine sick cetes right on the beach. The best doctors, jokingly called "vets" by their pun-happy patients, are those trained specifically in cetacean care. In emergency situations or isolated locations, however, cetaceans often have to make do with doctors trained primarily in human medicine. Autodocs are effective alternatives for cetaceans who do not have access to adequately trained doctors. The devices require special programming and adapters to accommodate cetaceans, which may not be readily available.

Critical or extended care typically requires that cete patients be transported to facilities specifically designed for whales. The best cete medical center is Gottfreid Memorial in New Fremantle but hospitals in Haven, Kingston, and Dyfedd have adequate personnel and cetacean-specific facilities. At these hospitals, operating theaters and recovery rooms equipped with surgical tanks and travel cradles allow doctors to treat cete patients with the most complete and effective resources. The GEO's Emergency Response Teams have a number of airborne ambulances capable of carrying cete patients, including a pair of converted heavy-lifters that can transport orcas. These medical vehicles are deployed in Haven, Second Try, Atlantis, al-Mamlakah, New Fremantle, and Dyfedd.

Medical care for whales is typically more expensive than for humans, with drugs and specialized equipment costing as much as triple the price for humans. The market for cetacean services is still small enough that such specialty items remain costly and hard to get. Hydrospace is working to increase the availability of cetacean medical equipment and drugs. The Incorporated also funds cetacean health research and has plans to build a cetacean medical school in Second Try. Interestingly, some of this current research has revealed that urban cetacean populations that are highly integrated into human society are beginning to show signs of stress-related illnesses such as arteriosclerosis, high blood pressure, and ulcers.

COMMON MEDICAL PROBLEMS

Cetaceans are susceptible to many of the same diseases as land-based mammals, including cancers, pneumonia, bacterial and viral infections, and ulcers. Whales on Poseidon must also be careful to avoid a host of parasitic infestations unique to the colony world, such as fast fungus and angel wing larvae. If caught early, these conditions are easily treated, but if neglected, they can cause permanent damage and even death. Podmates should check each other daily for various signs of infestation or infection.

Common in human aquaforms as well as cetaceans, harness itch is caused by several species of aquatic bacteria that can infect patches of skin rubbed raw by utility harnesses, spacer wetsuits, and other gear worn against wet skin. Harness itch is an uncomfortable red rash that can develop into dermal ulcers and dangerous secondary infections. Harness itch is readily treated with antibiotic creams.

Every cetacean on Poseidon has been infested with angel wing larvae at least once in his life. Adult angel wings dangle sticky egg clusters that attach to passing swimmers. The larvae burrow under the skin but are unable to mature inside non-indigenous hosts. Eventually the larvae die, which can lead to life-threatening secondary infections in the host. To treat the infection, podmates need only apply a paste of chewed fish to the affected area every few hours for 3 to 4 days. The poultice apparently supplies the necessary biochemical compounds that allow the larvae to mature, hatch out, and leave their host on their own.

Fast fungus is a symbiotic combination of organisms that consumes non-living or dead organic matter. It commonly occurs as a secondary infection in sores, wounds, and rashes, and can become a life-threatening problem if not quickly treated. Natives regularly wash such injuries with dilute solutions of soft spurt toxins to kill any fungal spores. For more progressed infections, native healers use wound snail therapy. These tiny snail analogs actually feed on fast fungus and effectively disinfect wounds and tissues.

EDUCATION

FORMAL EDUCATION

Like human children in 2199, cetacean calves get most of their primary and secondary education through teleclasses. The distribution of resources and the remoteness of most populations make traditional schools impractical anywhere but in the largest settlements. Even in such cities, it is often less expensive and more efficient for a centralized CommCore service to provide basic educational programming.

There are several commercial online services providing academic programs customized for cetacean students. These focus on reading, writing, and arithmetic, with additional content in cetacean history, marine biology, and remote technology.

The GEO offers a series of adequate programs and subsidizes the subscription fee for cetacean students, providing them a complete primary education for only a few hundred scrip. Other cetacean-specific programs with more sophisticated interactivity and real time seminars are available for around 1,000 scrip per semester.

Advanced secondary, vocational, and university programs typically require lab work, practical seminars, and other hands-on activities that necessitate physical on-site attendance. There are few programs either on Earth or the colony world designed to physically accommodate cete students. The Haven Institute of Science and Technology has facilities in Haven as well as in Dyfedd. In 2197, the Haven campus added a lab facility to its dockside extension campus with funds donated by Hydrospan and the Church of the Whalesong. The facility is designed specifically for cete students and provides them with physical access to a variety of lab and design resources.

The HIST Oceanographic Station in Dyfedd would probably cease to function without its cetacean grad students and field technicians. In fact, this facility is where Professor, the first full-time whale instructor at HIST, began his tenure in 2196. Just less than a year ago, Hydrospan opened Delphi College in New Fremantle. This facility is a fully equipped university

with a focus on applied sciences and an all-whale student body. The college is already at capacity and plans for a satellite cete medical school in Second Try are already in the works.

CULTURAL EDUCATION

Most species-specific cultural lessons are learned through the normal rigors of growing up in a pod full of mothers, siblings, aunts, and cousins. Hunting, courtship, acrobatics, sexual play, predator identification and evasion, and echolocation are taught and learned in the informal but demanding home environment. All members of a pod participate in teaching the young, and training is integrated into most daily activities. Most calves thoroughly enjoy this aspect of their education, as it is typically incorporated into imitation and acrobatic games.

As with human children, calves learn to speak by listening to and imitating those around them. Unlike human children, however, all calves are raised bilingual, learning Interspecies from their podmates and native human friends. This localized tradition of linguistic education is what gives cetes their regionally characteristic dialects. For the most part, adult whales enjoy passing lessons on to their young and find unique satisfaction in their earnest and often humorous efforts to learn.

The Church of the Whalesong has established schools in a number of communities with high cetacean populations throughout the Pacifica Archipelago. These schools provide facilities and access technology free of charge for all whales, and though they also provide a basic academic program, their focus is primarily cultural. This cultural curriculum has a decidedly cetacean bias, emphasizing cetacean history, Whalesong interpretation and composition, cetacean civics, and dolphin economics. Many whales praise the Church school system for developing an appreciation for all things cetacean in their young. Others decry the system for its bias, claiming that what it teaches borders on reverse specism.

ARTS AND ENTERTAINMENT

ART

The cetacean approach to art could more properly be called artisanship than artistry. Rather than create works of art for their own sake, whales typically

incorporate artistic expression into the practical tasks and objects of their daily lives. For example, cetaceans enthusiastically paint their remotes, but most would never think to paint a piece of canvas unless

it was to be used as a sail or a curtain. They create fantastic poems and songs to pass on cultural traditions but would never consider writing a poem to express romantic love.

Despite its practical edge, cetacean art redefines the word gaudy, and even the most knowledgeable cetologists are at a loss to explain the reasons for this. Perhaps it is an aspect of their color vision or how sound pictures are affected by clashing textures and materials. Maybe it is simply a wholly cetacean abstraction. Whatever the reason, whale art is far flashier and more colorful than most humans find tasteful. Conversely, cetaceans consider human artistic preferences visually bland and uninteresting and sonically dead.

Decorating Remotes

Many cetaceans garishly decorate their remotes, especially their smaller, everyday hover drones. Cetes often consider remotes to be extensions of their own bodies and use them to great effect in expressing themselves. Even those with little artistic talent follow the practice, though most humans would have a difficult time making the distinction. In decorating remotes anything goes, and there seems to be only a single unwritten rule: The owner alone is responsible for personalizing his device. Conveniently, this habit often helps to identify individual machines, and therefore their operators, even from a distance.

Remotes are usually covered with clashing colors on every possible surface, including the fan ducts, airfoils, and even gun mounts. Humans find them frustrating to look at closely, like cloud formations that seem to suggest some recognizable form but never quite coalesce into a definite picture. The art is not always abstract, however. Often the images are visual representations of sound pictures, either allusive histories of cetaceans' personal names or depictions of significant fragments of the Whalesong. Dozens or even hundreds of these colorful machines zipping around a city makes an impressive if sometimes dizzying sight.

Body Decoration

Cetacean skin, though it looks tough, is readily damaged, and older cetes typically bear numerous scars. Whales sometimes take advantage of their easily scarred skin to create decorative or identifying marks. Most cetaceans are inscribed with some small marker, usually at the shoulder of one of the

pectoral fins, to represent their pod affiliation. Over a lifetime, a socially mobile cetacean may acquire several such pod marks. Shock troopers, peacekeepers, gangsters, and native insurgents sometimes also use scars to denote rank or track number of kills.

Orcas in the Sierra Nueva region have developed an unusual habit of covering themselves with elaborate full-body scars when they reach physical maturity. Surviving is a challenge on the frontier, and cetaceans often acquire numerous scars from both predators and other cetaceans by the time they reach adulthood. Talented artists often study a whale's natural scars and work them into a unique design. Such scarring is a slow and painful process, and may take several years to complete, especially on individuals of the larger species.

In a less permanent expression of the same decorative urge, many cetes have begun using body paints not only as part of echo/motion performances, but on a daily basis. Perhaps motivated by the inability of most humans to tell individual whales apart, many city dwellers and incorporate cetaceans paint themselves in loud colors, elaborate patterns, and sometimes even cover themselves with words or phrases. It is now not uncommon to see fins in urban areas sporting paint jobs as bright and fanciful as those on their remotes.

Echo/motion

Cetaceans do not typically create solely auditory music as humans do. Their music analog, called echo/motion, is a combination of sound and acrobatics akin to musical gymnastics. During an echo/motion performance, one or more cetaceans dive beneath a submerged ring of audience members and beam sound pictures upward towards them. Other fins will broadcast rhythmic whistles and squeaks to accompany the echo pulses.

Acrobatic fins, often painted in garish patterns, will leap, splash, and dive through the water above, below, and between the audience members. As they do so, they create percussive sounds by breaching, jaw clapping, and fluke and fin slapping. The visual impact of the colorful cetes and their bubble trails are as much a part of the piece as the coordinated sound waves their movements create. Such pieces are often loosely based on excerpts from the Whalesong but with less narrative structure; even with sound picture translators, human audience members are usually overwhelmed and confused by such performances.

Sound Plays

Not only can cetaceans form sound pictures from the sounds and echoes they hear, but they can also use their echolocation to mimic those same noises, allowing them to create sound pictures in the minds of cete listeners. This ability is the basis of whale communication and has the information density humans normally associate with vision. Sound plays are a manifestation of this skill and a uniquely cetacean art form. In fact, humans are physically and mentally unequipped to even perceive the medium let alone appreciate it. To perform a sound play, one or more individuals form a “choir” and position themselves beneath an audience floating in a ring near the surface. This arrangement, called a “sound ring,” allows the choir to optimally target the audience members, providing the least distortion of the sounds the choir creates. Plays consist of a series of sound picture scenes generated by the choir. Each member of the choir echolocates toward the audience, mimicking the sounds of whatever their individual part represents, forming the sound picture of their role in the minds of the audience. A choir member may in one moment create the sound of distant surf, and in the next generate the sound of a passing fish, a pile of rocks, or gentle rain falling on the water’s surface.

Each member sings many parts, and unlike with visual analogs, a player can go back and forth between parts without confusing the audience or breaking the suspension of disbelief. The larger the choir the more elaborate and rich each scene can be, and the more realistic the sound picture imagery. In fact, a large and accomplished choir can compose scenes that most cetes find hard to distinguish from reality when they close their eyes. The end result is a multilayered sonic model of reality that carries a quality and immediacy that rivals that of trodes. Sound plays can be abstract or literal. They can be simple images or they can tell as coherent and clear a story as any CommCore production. Most sound plays feature stories and scenes from the Whalesong, but an increasing number of sound playwrights are taking cues from human theater and creating wholly original works. Others have even begun translating famous human works into sound plays. At last year’s Kingston Music Festival, a choir of belugas and commons called the Bards did sound play adaptations of Shakespeare’s *Hamlet* and *Twelfth Night*. Though the relevant plot lines were reworked to accommodate the structure of pod relationships, the effort met with rave reviews.

ENTERTAINMENT

Cetes are physical creatures and rejoice in movement and motion. They loathe remaining still for long and revel in the physical aspects of any task. Even professions that humans consider sedentary, cetes are able to turn into active occupations. So much of the work that whales do is through telepresence that cete engineers can run programs while storm surfing, and Hydrosan executives can attend board meetings while chasing lunch. For a whale of any species, motion is life, and most cete entertainment involves some form of frenetic, liberating, and challenging acrobatic motion.

Joking Play

Cetaceans are able to make a game out of almost any activity no matter how mundane. Even while at work, they amuse themselves by playing pranks or turning repetitive tasks into challenges of wit or agility. Cetaceans love to build on each other’s antics or ingenuity when hunting, having sex, or otherwise simply enjoying each other’s company. Though commons and fins are most prone to fooling around and could be considered the silliest of the whale species, even the plodding and seemingly joyless orcas have soft spots for physical pranks and elaborate practical jokes. Though not known for original thinking, orcas are nonetheless accomplished and clever jesters.

Storm Surfing

Instead of withdrawing to sheltered coves during storms, many cetaceans go to great lengths to seek out and ride the gale-tossed waves. In fact, when whales sense a storm coming, they often consult local maps and weather service projections to identify the most promising regions, then gather in raucous groups of like-minded surfers. Cetes are relatively safe in stormy seas, as they can always dive below the storm and swim for calmer waters if conditions become dangerous. However, if storm seas become too chaotic, whales risk disorientation and exhaustion that can lead to drowning. This danger is part of the appeal for many cetes, especially orcas, allowing them to test their limits and experience the thrill of fear and the joy of survival.

Synchronized Swimming

Cetaceans often spontaneously engage in a sort of cooperative acrobatics that humans unfortunately call synchronized swimming. This dance-like activ-



ity involves diving and leaping in rhythm with one another, often in tightly coordinated patterns, so close that the participants actually brush lightly against each other in mid-air. Newcomer humans lucky enough to catch sight of one of these displays typically assume they require elaborate choreography and long hours of practice, but in actuality these acrobatics are almost always improvised and not performances at all. Some humans liken it to a physical sort of jazz in that the swimmers seem to work together to create amazing patterns of arcs and spirals, then hold back to feature a single player's best moves.

Sometimes cetes will involve other creatures in their acrobatics. For instance, they might stir up schools of fish or sunbursts and then harmonize their movements with those of the fish. These displays require greater skill and are often all the more dramatic for the effort. Native humans are also occasionally included in these displays, but cetaceans usually seem to prefer to carry out these activities in seclusion. Human cetologists still do not fully understand the significance of these dances and theorize that they are the cultural remnants of primal bonding activities. Cetaceans cannot explain it themselves, though they readily ramble on about the incredi-

ble exhilaration and sense of union they feel while engaged in the dance. Many say they are not thinking about their next moves at all, only swimming and moving as their instincts or intuition guide them. Perhaps the cetacean word for the activity best describes the act and the reason cetes revel in it. Loosely translated, the word simply means "joy."

Hydroshot

Hydroshot is the premier competitive sport on Poseidon. It is played in the water by three teams competing in a triangular field, each corner containing a floating net defended by one of the teams. The side with the fewest scores against it at the end of the match wins. Players use scoop-like cylindrical launchers to catch, bat, block, and launch the spongy, buoyant ball called a squirt. For the most powerful toss, players make a "slap shot" in which they slap the open side of the launcher against the water surface. The sudden force of pressure fires the squirt through the launcher at speeds up to 80 kilometers per hour.

The game evolved out of the water polo matches played by Poseidon's earliest settlers. After the Abandonment, the third team and launchers were added to make hydroshot much like the sport played today.

Play is fast-paced, characterized by temporary alliances and sudden betrayals. The trailing teams usually pair up to score against the leader, but once the points even out, the cooperating teams quickly turn on each other. Games last for three 20-minute periods.

In native settlements, boundaries are marked with floating baskets, goals are made from old fishing nets, and spectators bob in the water nearby or sit on the beach. As the sport has grown in popularity since Recontact, larger communities now feature elaborate commercial arenas with bleachers, concession stands, bathrooms, locker rooms, and lounges. The Global Hydroshot League (GHL), formed almost eight years ago, sponsors annual championship play-offs among the planet's twelve teams. The GHL is usually dominated by the formidable Haven Colonials, but the Kingston Irie, the Santa Elena Sharks, and the Try-town Tsunami have recently begun to show promise.

Though always a controversial topic among fans, the GHL has separate leagues for humans and cetaceans. The GHL created this policy for three reasons. First, even aquaforms are unable to compete effectively against cete players in their natural environ-

ment. Second, cetaceans prefer a more unregulated and improvisational style of play that confounds the purpose of rules. Third, human sports fans want to see humans play, and there are a lot more humans than cetaceans, even on Poseidon. As an unfortunate result, the human league has a much larger following and garners the greater share of the sponsorships, the press, and the prize money.

Cetaceans still love the sport, however, and are as enthusiastic in local pick-up games as they are in their league events. Informal games sometimes get out of hand—at least from a human perspective—often with four or more teams playing together at one time and nobody sure just who is on his side or even which net is his. Cetes playing among themselves usually do not even keep score, with the games often ending in rowdy confusion. Most humans find this style of play frustrating to watch and, at times, get the uneasy feeling that they are somehow being mocked.

In native communities, cetaceans and aquaforms typically play on mixed teams, sometimes sticking to the human rules, sometimes giving way to the unrestricted style and joy of cetacean play.

MOST WANTED

BATAKU

Bataku was born 43 years ago to the transient orca who founded the first settlement in the Sierra Nueva. Like many of his people, Bataku has been deeply influenced by a radical sect of the Church of Whalesong Theogony. These beliefs apparently developed among a small group of dolphin colonists during the early years of the Athena Project. Violent resistance to Earth interference on Poseidon is one of the religion's central themes. Bataku is a charismatic leader in a culture that attaches a great deal of respect to genlifted cetaceans. He enjoys widespread support and guidance from the tribes' dolphin shamans and is perceived as an almost mythical figure by many of his people. Above all, he is driven by a burning need to see his native world rid of the newcomers once and for all. To this end, he has been organizing several tribes of the Sierra Nueva into an effective guerilla resistance force.

The orca warchief's psychology is a unique hybrid of transient and resident characteristics. His father was a soldier in the UN Peacekeeping Force charged

with protecting the Athena Project from Poseidon's marine predators. Like his son, the first Bataku was a fierce, aggressive warrior and a charismatic and disciplined leader. Bataku's mother, Ruahe, was a resident orca who served in search-and-rescue with the Haven colony for 12 years before joining the original settlement effort in the Sierra Nueva.

Both parents played an active part in Bataku's upbringing. With the careful guidance of his tribe's dolphin shaman, Bataku's father taught the young orca how to hunt, how to win a mate, and how to effectively lead his people. Bataku's mother taught him a love for his people and showed him why being a good leader was important. As an adult, Bataku considers the Sierra Nueva his world, and he believes that all of its tribes are his children. He dreams of the day when he will unite them and drive the newcomers from his beloved oceans.

While Bataku frequently uses modern weaponry against the Incorporate and other enemies, this is the only significant concession he has made to high technology. He communicates with humans exclu-

sively through Interspecies, and he never uses CICA-DAs or other cetacean devices. When dealing with humans—even his own people—his language is typically direct to the point of abruptness. Like most orcas, he prefers to think things through carefully before speaking. When angered, however, his Interspecies is often punctuated by primal vocalizations and body movements that are extremely intimidating to both humans and other cetes. It is likely that the eloquent statements and manifestos Bataku has released to the colonial media were, in fact, crafted by his dolphin advisers. In almost all cases, the orca is content to let dolphins do the talking—he much prefers direct action.

Species: Orca

Goal: Revolution

Motivation: Faith

Attitude: Disciplined

Role: Native Insurgent (Elite)

Primary Attributes: Physique 6, Coordination -2, Cognition 0, Psyche 2

Derived Attributes: Endurance 7, Reflexes -1, Toughness 4

Modifications: None

Aptitudes: (Superior) Combat, Survival; (Strong) Culture, Communication, Stealth, Tech

Primary Skills: Culture (Cetacean) 6, Culture (Native) 8, Foraging 9, Language (Interspec) 4, Leadership 6, Navigation 5, Remote Operations 7, Remote Weapons 6, Stealth 6, Unarmed Melee 8

BUFFALO

Buffalo's origins are something of a mystery. There are plenty of rumors, but nobody knows for sure where she came from or how she ended up on Poseidon. She refuses to talk about her past, hinting only at dark transgressions committed against her on Earth by the "walking squid," as she likes to call humans.

The truth is, she ended up on Poseidon after stealing a significant sum of money from an Asian syndicate for which she had been a waterfront enforcer. The whole episode was a disaster and cost her the life of her first, and to date only, calf. Though even she is unaware of the fact, it was this loss that seeded her considerable hatred for humans, a hatred that has grown into a self-fueling obsession.

Her former employers put a price on Buffalo's head and she managed to escape to Poseidon just ahead of an assassin's mini-torp. As soon as she got to Haven, she used the remainder of her stolen funds to

buy some major body sculpting, changing her color patterns, dorsal height, and general bulk. She then abandoned her former identity and started a new life as Buffalo, a larger and more imposing version of her former self.

Buffalo soon found work running drugs for a few small-time dealers in Haven, but she quickly grew dissatisfied with her opportunities there. She set her sights on the powerful but insular Gorchoff organization, and it is a testament to her charm and charisma that the Family took her in. She did well there for several years, and there was even talk that before long she might be made an official member of the Family, an unheard of honor for a cete. That all ended the night she killed a bottlenose in her crew without the permission of "Uncle Vlad," violating one of the Family's cardinal rules.

Buffalo immediately left town, leaving all her assets behind, but she did take with her the rest of her crew, a motley band of commons and orcas who follow her with a strangely rabid loyalty. This group of dedicated lackeys would later be dubbed the "Diplomats."

She ended up in Kingston, which seemed a better fit for her personality. She did some business for the NRM but concentrated her efforts on establishing herself within the local Whalesong church, putting her considerable charisma to good use. Until then, the church leader's role in Kingston, as elsewhere, had been primarily administrative, with little real power. Once she became leader, however, her ambitions grew as she used her position to make her anti-human message known. She attracted a sizable following due as much to her personality as to her message, which resonated with a growing number of disaffected cetes.

Buffalo knows very well that her past could catch up with her at any time, and for that reason she surrounds herself with bodyguards, which has given her something of a reputation for paranoia. Buffalo's watchfulness has saved her skin more than once, and most recently helped her pick up on George's suspicious activities. She still has no idea how deep his intentions run, however.

Buffalo is 38 years old and on regular longevity treatments. She is physically typical of her species, though her size often leads humans to mistake her for male. She has no old distinguishing marks, having had them all removed during her body sculpting. She does have a single raised scar on her right

shoulder, however, something she had done only three years ago. The mark is a large keloid scar of a Japanese character meaning “rain”—the name she called her murdered calf.

Species: Orca

Goal: Revenge

Motivation: Hatred

Attitude: Rebellious

Role: Gangster (Professional)

Primary Attributes: Physique 4, Coordination –1, Cognition –1, Psyche 0

Derived Attributes: Endurance 5, Reflexes –1, Toughness 3

Modifications: Body Sculpting

Aptitudes: (Superior) Communication; (Strong) Combat, Culture, Stealth

Primary Skills: Culture (Earth) 4, Culture (Human) 5, Culture (Street) 5, Fast-talk 7, Language (Interspec) 3, Leadership 6, Persuasion 6, Remote Operations 7, Remote Weapons 6, Stealth 4, Unarmed Melee 7

PATHFINDER

Ask just about anyone in Kingston about Pathfinder and they will likely have a story to tell. Though many have not met her themselves, almost everyone knows of her and has heard at least one of the almost-legends that have become associated with her name. Did you know that she discovered the Pebble Rocks Field? Did you hear how she escaped a greater white? Do you know the story of how she saved the downed Calyspo shuttle crew, or how she was the last one to see the Cousteau?

‘Finder is a spirited personality, and though in reality her life is not quite as spectacular as her reputation, it has been a remarkable one nonetheless. Pathfinder is old now for a fin, but she has the vigor and lust for life of a calf. She is enthusiastic and curious, with an infinite capacity for new experiences. Pathfinder’s greatest joy seems to come from her friends, and she is constantly making new ones. Though it may seem more like frontier exaggeration, it is closer to truth that Pathfinder knows everyone in Kingston. Her closest friends are cherished, and oddly enough most of them are human. In fact, Pathfinder seems endlessly amused by the human condition, likely a result of her early life.

When ‘Finder was young, her pod was attacked and killed by a school of indigenous carnivores—all speed and teeth. She was badly hurt and still bears

large, tell-tale scars on her flank. Little more than a child, ‘Finder somehow made her way into Annotto Bay where she was found adrift by the now legendary native trader “Canada” Pete Fisher. Fisher nursed the half-dead fin back to health, and a unique partnership was born. Pathfinder traveled everywhere with Fisher in those early years, following the trade routes through the Zion Islands, and establishing new ones. The spreading Athena settlements and their residents became substitute homes and families, and ‘Finder grew into a life very different from the one into which she had been born—a human one.

As a result of her travels, Pathfinder became intimately familiar with every island, bay, cove, rock, reef, and shallow in the Zion Islands. When Fisher finally retired, ‘Finder took advantage of the opportunity offered by Recontact and began serving as a guide for the scientists, prospectors, and pioneers pouring onto the planet. Unlike many of her native counterparts, Pathfinder is actually fond of most newcomers and has guided hundreds of them on all sorts of expeditions through the Islands and the surrounding waters. ‘Finder seems to consider herself some kind of good will ambassador for Poseidon, and though she is hardly naive, she sees only a bright future for the frontier and its denizens. Aging, and now semi-retired herself, Pathfinder spends most of her time in Kingston, guiding only the odd tourist group, regaling them with tales of the “good old days” before Recontact.

‘Finder is a large fin, and though she is showing the outward signs of age, she is exceptionally fit for her 71 years. Her grayish hide bears numerous scars, but the large and gnarled bite marks on her left flank are the most demonstrative of her life on the frontier.

Species: Bottlenose Dolphin

Goal: Freedom

Motivation: Adventure

Attitude: Holistic

Role: Frontiersman (Professional)

Primary Attributes: Physique 3, Coordination 1, Cognition 1, Psyche 1

Derived Attributes: Endurance 5, Reflexes 1, Toughness 1

Modifications: None

Aptitudes: (Superior) Survival; (Strong) Combat, Sciences, Tech

Primary Skills: Culture (Cetacean) 5, Culture (Colonial) 7, Culture (Native) 8, Ecoscience 5, Foraging 9, Language (Interspec) 7, Medicine 4,

Navigation 7, Remote Operations 7, Remote Weapons 6, Unarmed Melee 5

POPE

At the time of Recontact, Pope honestly believed that newcomers and natives could live peacefully together, and he did all that he could to ease the transition on both sides. He counseled Earth-born cetes traumatized by their experiences on the world they had left behind, and he negotiated with GEO leaders on Poseidon to protect native rights. He also facilitated GEO efforts to survey and explore the alien planet and encouraged suspicious natives to trust the GEO. Pope has received very tangible rewards as a result of his well-meaning efforts. He convinced the GEO to fund construction of the Whalesong church in Haven Harbor, and in 2196, Pope won a seat on the Haven City Council, making him the first cete ever to hold office in Poseidon's colonial government.

Pope is increasingly neglecting the church duties he once loved in order to pursue politics. Some of his closest advisers have noticed the change in him and have grown concerned about his single-minded drive to become a significant politic player. Though Pope still appears as the same simple, altruistic fin he once was, this persona has gradually become more of a mask to disguise his increasing political savvy. His sustained exposure to human politics has taught him many of the skills necessary to pursue his interests in that venue. For example, though he managed to distance himself from any unpleasantness, it was his agents who made much of a few minor indiscretions on the part of his opponents in the City Council election, which may have won him the contest.

His naming history tells the story of his increasing ambition. Twenty years ago, Pope was known as Listener, and after Recontact, he took the name Balancer, both names that reflect the ideals he held at the time. Then a few years ago he took up the study of human religious history and learned about the incredible power Catholic Popes wielded for many centuries. Perhaps as a subtle commentary, or a personal challenge, he changed his name as a result. Many cetes found his name choice puzzling but assumed he wished to emulate these leaders' religious idealism.

Though Pope won his first election only three years ago, he is already looking ahead to the next race. His desire to run for mayor in 2202 is well known, but few are aware that he sees that office

as only a stepping stone to his true goal: becoming Deputy Commissioner of Natural Resources and ultimately Colonial Administrator. He believes he wants these offices only in order to protect the planet, but in truth, he has begun to develop a very human-like ambition. To justify his behavior, Pope has reinterpreted a central cetacean ideal. He still believes that the good of the many is worth an individual's sacrifice—he just thinks now that such sacrifice need not be his own.

At times, it is unclear whether Pope is using the humans to further his own interests or whether he is being manipulated by the humans in pursuit of their own very different ends. Despite his acquired human cunning, Pope does not seem to realize that just because high-ranking humans are siding with him against Buffalo does not mean that they will support his own cause when the time comes. Also, he seems to believe that though he has had to take up human ways in order to achieve his goals, once he is Colonial Administrator, he can go back to his former altruistic sensibilities. Unfortunately, as Pope becomes more and more deeply entrenched in human-style politics, this expectation becomes increasingly unrealistic.

Pope had already reached dolphin old age when he started longevity treatments and is now chronologically 62 years old. His skin is dark gray with mottled flanks, and an ugly pattern of pseudoeel tooth scars runs along the left side of his tail stalk. He is missing a number of teeth and even has deep wrinkles at the corners of his mouth. His eyes are bright, however, and his wits are as sharp as ever. Though he is too slow these days to hunt his own food, he is becoming quite an able predator in Poseidon's political scene.

Species: Bottlenose Dolphin

Goal: Power

Motivation: Loyalty

Attitude: Cooperative

Role: Administrator (Remarkable)

Primary Attributes: Physique 2, Coordination -1, Cognition 1, Psyche 2

Derived Attributes: Endurance 5, Reflexes 0, Toughness 1

Modifications: Longevity Therapy

Aptitudes: (Superior) Sentient Sciences; (Strong) Administration, Communication, Culture, Medicine

Primary Skills: Bureaucracy 7, Culture (Cetacean) 6, Culture (Colonial) 8, Culture(Earth) 4, Culture (GEO) 5, Culture (Human) 4, Culture (Native) 6, Language (Interspec) 9, Politics 7, Psychology 4, Remote Operations 5

SERGEANT MAJOR

Sergeant Major had always been unusually strong and fearless, even for an orca, and the GEO began trying to recruit him when he was still a teenager. Initially, he was never interested. In those days he was called Sully, and all he cared about was his pod: Prowler, Pacer, and Glide—especially Glide. They were born into the same pod and had been inseparable their entire lives.

Twelve years ago they all worked for the same security company and were on assignment with Atlas Materials. Atlas had stepped up their patrols in response to increased activity on the part of several volatile protest groups, and the orca team was a recent addition. Sully did not follow politics and was not even sure what the controversy was about. All that changed on the day Zero Nation attacked the Atlas transport ships, killing Sully's podmate in the process. Sully raced to the scene in a frenzy of rage, but it was too late—Glide was dead and the

perpetrators were long gone. Sully crashed through the wreckage anyway, looking for someone to punish, stopping only when exhaustion overcame him.

Sully spent several months researching the organization and finally identified the cete behind the Atlas Materials attack—a beluga named Justice. He spent the next year tracking her down and eventually traced her to Poseidon. Sully went to the GEO and agreed to join on the condition that he was assigned to the colony planet. They agreed, and a little over a year later, he splashed down on Poseidon as a GEO Peacekeeper. Sully took to the work, but his real priority was tracking down Justice. Eventually Sully got a tip that she had changed her name to Jester and was working with an insurgent group in Kingston. The orca took a short leave and went to investigate. After some snooping in Kingston, Sully heard a rumor about a possible strike during the music festival. He watched and waited, unaware that a Peacekeeper counter-intelligence team was also hunting the terrorists.

The details of the circumstances were lost in the chaos of the raid, but a few facts are known. The CI team made a raid on one of the larger concert venues, just as Jester and her comrades were setting their bombs. The resulting explosions and pro-



tracted gun battle drew Sully to the scene and into the fight. In the end, forty spectators died, but Sully killed five insurgents, saved several injured cetes, and helped his fellow Peacekeepers capture fourteen of the terrorists. Unfortunately, Jester got away. Sully was badly hurt himself, having lost most of one pectoral fin and taken several bullets in his flank. A pair of shock troopers attached to the CI team were extremely impressed by his bravery, brutality, and toughness, but all Sully could think about was the enemy he had let slip away.

Several months later, after Sully had recuperated, Major Mahoney, Poseidon's ranking shock trooper, approached him about becoming the first cetacean shock trooper. The incredible honor of the unexpected offer roused Sully from his brooding over Jester, and he gruffly accepted. A short time later, he changed his name to Soldier. The media was quick to pick up the story of the whale hero who was making history, but the cetacean community had mixed reactions. Many saw him as an excellent role model for his bravery and determination. Others saw his work in counter-terrorism and counter-insurgency as a betrayal of cetacean loyalties.

Soldier seemed unmoved by all the public attention he received. He was more concerned about the biomodifications his superiors insisted he undergo, certain he was tough enough and fast enough to defeat anybody just as he was. Eventually he gave in, however, and in the end even he was impressed by how much the programmed reflexes, pain inhibitors, and other shock trooper modifications boosted his abilities. His hulking body was even bigger and more menacing, and when decked out in his loaded weapons harness and bristling fin blades, he was positively terrifying.

Soldier turned out to be uniquely effective as a shock trooper. With his help, GEO special operations succeeded in several key missions against both insurgent and Incorporate forces in the Sierra Nueva conflict. He was also instrumental in the rescue of two native girls taken hostage in Santa Elena. In fact, Soldier has been so effective that the GEO asked him to recruit and train two more orca shock troopers, who have so far proven to be worthy soldiers as well. With a recent promotion to his namesake rank,

Soldier changed his name to Sergeant Major, and is now in charge of a mixed species, special tactics marine assault team. Despite his success, Sergeant Major has never forgotten his vow to avenge his pod-mate. With every mission, he searches for signs of Jester. Though he would not admit it even to himself, deep down he knows that if the moment came and he were confronted with the beluga, he would abandon anything to take his vengeance, even if it meant the lives of his teammates.

Sergeant Major is huge even for an orca, measuring almost 9 meters in length and massing just under 6,000 kilograms. His shock trooper mods are well hidden under his considerable blubber, but his bulk was increased significantly by the enhancements. Sergeant Major is thirty-two years old but has been on regular longevity treatments for the past eight years. His skin pattern is still its natural black, white and gray, but with his chromatophoric pigmentation, it seldom appears that way.

Around his current post at Fort Solitude, he usually wears a pattern of jungle camouflage like the BDUs of his fellow troopers, with his rank insignia emblazoned on either shoulder. When deployed in combat, his skin is either the black of the depths or the shimmering, variable blue of sunlit waters. Regardless, this perfect camouflage means his targets never see him coming.

Species: Orca

Goal: Revenge

Motivation: Obsession

Attitude: Disciplined

Role: GEO Shock Trooper (Elite)

Primary Attributes: Physique 7, Coordination 0, Cognition -1, Psyche 0

Derived Attributes: Endurance 8, Reflexes 0, Toughness 4

Modifications: Longevity Treatments, Pain Inhibitors, Chromatophoric Pigmentation, Shock Trooper

Aptitudes: (Superior) Combat, Survival; (Strong) Administration, Communication, Culture, Tech

Primary Skills: Culture (GEO) 3, Culture (Military) 5, Foraging 9, Language (Interspec) 5, Leadership 4, Medicine 4, Planning 3, Remote Operations 6, Remote Weapons 7, Unarmed Melee 8

CHAPTER 5: CEITACEAN CHARACTERS



Choosing to play a cetacean character in BLUE PLANET is a challenging prospect, and at first might seem intimidating. Not only are they nonhuman in their thinking and behavior, they also live an aquatic life in a world apart from humans. As roleplaying characters, however, cetaceans are not as different as they might appear, and playing one is not as difficult as it may seem.

As roleplaying characters, whales have more similarities with humans than they do differences. They have individual abilities, personalities, interests, and goals, and they have a social structure within which they live and act. They have family, friends, acquaintances,

and contacts with whom they can interact, and they have varied and valuable resources they can utilize. The nature of these things may be notably different in cetacean culture, but once the details are understood, the practicalities of playing a cetacean character are really no different than those for playing a human one.

The following information is intended to offer players encouragement, advice, and inspiration for running whale characters. This information will help players maximize the effectiveness of their cetacean characters by playing to their unique strengths and advantages while minimizing their limitations.

HUMANS IN FISH SUITS

When playing non-human characters in any roleplaying game, players are usually looking for something a little different, something interesting, challenging, or with uncommon abilities. Unfortunately, when playing non-human characters, a common failing is to simply play them as humans in funny suits, giving the non-human characters distinctly human behaviors and motivations. One of the intentions of this book is to provide players with the information and guidance they need to give cetacean characters fully realized but uniquely non-human substance.

The trick to making cetaceans truly non-human is to take advantage of the unique aspects of their behavior and culture, continually integrating them into the game play through the characters' motivations and actions. Like humans, genlifted whale behavior is an integration of primal instincts and cultural conventions. The things they do are determined by a combination of nature and society. Players running cetacean characters should study the behavioral and cultural sections of this book specifically, and keep the information in mind as they decide how their characters should act.

Because of their short cultural history, cetacean behavior is heavily influenced by their primal instincts. As a result, their behavior is as often an expression of dominant instincts as it is an expression of developing cultural features. Players should keep in mind, and frequently act on, instinctual aspects of cetacean behavior. Such instinctual drives are numerous but include their devotion to and preoccupation with podmates, their constant interest in sex and sexual play, and their deliberate and often dangerous expressions of territoriality.

Cetaceans think differently and their thought processes color their view of the world. Each cetacean species has a unique mentality that should be expressed in how much they deliberate, how quickly they act, and how persistent their efforts are. For example, orcas are methodical and stubborn and their behavior as characters should reflect this. Fins are intuitive and impulsive and this should come out in game play. Care should be taken to identify the specific mentality of a character's species and express this in the choices he makes and the actions he takes. Cetaceans also possess senses beyond those of humans and so perceive the world in more detail and depth. This enhanced perception allows whale characters to gather unique information—sound pictures, magnetic orientation, pressure variations—giving them the ability to act when human characters cannot. These advantages in perception should be used to further accentuate the differences between whales and humans.

Genlifted whale culture, though young, is rich and is continuing to develop. There are numerous cultural features presented in this book that can provide non-human inspiration for the actions of cetacean characters. For example, cetaceans typically strive for knowledge for its own sake, and much of their artistic expression is impossible for humans to even experience let alone appreciate. Many whale activities and institutions are manifestations of their search for cultural identity and are motivated by that collective psychological need. They are driven by their inherent fear of extinction, a biological as well as an historical imperative. The founding and continued popularity of the Church of the Whalesong is

often linked directly to this preoccupation with survival. Similarly, the almost universal demand for longevity treatments among whales is often attributed to the cetacean survival ethic.

Another effective way to express the non-human aspects of cetacean characters is to emphasize the things whales cannot understand or do. Cetacean concepts of human culture are typically better than the reverse but are still surprisingly confused or incomplete. Their understanding of human motivations, goals, morals, taboos, and religions are just a few of the potential intercultural confusions. Players should act on these issues, using them as sticking

points to roleplay around and to express their characters' distinctly non-human nature.

Physically, cetaceans are also limited in significant ways, and playing on these restrictions adds to the non-human nature of whale characters. Cetaceans do not sleep in the same sense that humans do and lack a usable sense of smell. Obviously they are unable to move effectively out of water, and they cannot really swim backwards. Their natural ability to speak vocally is limited and they require considerable amounts of food. Playing up such restrictions can be used to further separate the behavior of whale characters from that of human ones.

ADVANTAGES OF CETACEAN COGNITION

There are several obvious advantages to playing cetaceans, but there are also numerous subtle advantages that actually combine to make whales more effective characters. The obvious advantages are easy to see. In water, whales are faster and more agile and can dive far deeper and far longer than unmodified humans. They have better aquatic vision and hearing and can see better in dim underwater light. They can echolocate and obtain information that cannot

be hidden by the dark and that is more detailed and revealing than anything humans can perceive. They also have size, natural weapons, and a distinct home-field advantage on their side in a fight.

The less obvious advantages are primarily the result of genlift and its physiological effects on primal cetacean cognition. The basic abilities and thought processes of the whale brain were enhanced in subtle ways that modern cetaceans use to unique effect.

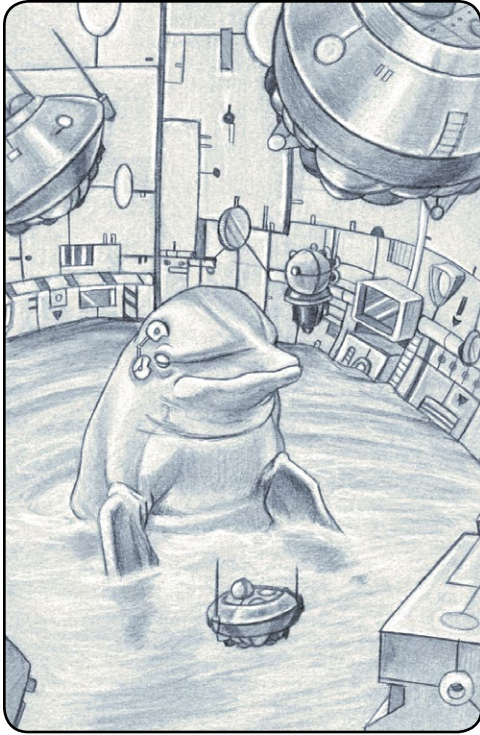
CETACEANS AND TELEPRESENCE

One of the most intimidating aspects of choosing to play a whale character is the misconception that, because cetaceans are water-bound, they are somehow limited in the sorts of things they can do and even in the sorts of adventures in which they can participate. This is simply not the case. In fact, cetaceans are more versatile, capable, and robust characters than humans in almost every sense. The technology of 2199, CICADAs and remotes most notably, allows cetaceans to be just as effective as humans in non-aquatic environments. Underwater of course, or in the zero-g of space, cetaceans are indisputably the more able species.

Cetaceans do not have any better access to technology than humans. They do however depend so much more on certain technologies than the average human that they have become more capable with specific classes of equipment and have more thoroughly integrated these devices into their lives and culture. This high level of integration and practiced skill empowers cetacean characters, giving them capabilities beyond typical human characters.

Cetaceans are absolutely dependent on telepresence, working at a distance through remotes, computers, and interactive equipment, to connect with the human world. As a result much of what cetacean characters do in a typical BLUE PLANET game is done through telepresence. Though their restriction to aquatic environments prevents them from being physically present in land-based situations, it by no means prevents them from being involved in, and affecting, these situations.

Telepresence and sophisticated remotes allow cetacean characters to be at least as involved and effective as human characters in any circumstance. Players and Game Masters should not be intimidated by the telepresence mechanism and cetacean dependence on it. Instead they are encouraged to embrace the power telepresence offers characters and the interesting elements it interjects into games. Anything a human can do by hand or with a given device, a whale can do via an appropriately equipped remote. Remotes can have onboard electronics and computers, transmitters and communicators, manipulating



As previously discussed, cetaceans have a duality to their consciousness that makes them particularly well suited to telepresence and remote operations. Within the limitations described above, cetacean characters can simultaneously act in their own specific location as well as at the sites of their various remotes. This is an extremely empowering ability, especially in military, espionage, law enforcement, and exploration based adventures. Additionally, whales can use this duality to simultaneously operate two independent remotes in different locations without the penalties a human operator would incur. Whales can operate remote constellations more effectively than humans as well. When working through a constellation, cetacean operators receive a +3 Cognition bonus instead of the typical human +2 bonus.

Remotes are always effective weapons in combat, but the ability to operate a remote while utilizing other resources, or to operate two independent combat remotes simultaneously, makes cetacean operators extremely deadly. Their high speed, small size, onboard computers, weapons, sensor arrays, integral armor, and flight capabilities allow combat remotes to dominate almost any firefight while allowing their whale operators to remain safely out of the danger zone.

hands and integral weapons, and visual pickups and voice synthesizers, all working to allow cetaceans complete access to humans and the human world.

The most obvious advantages telepresence provides cetaceans in terms of game play are the associated skill and initiative bonuses offered by neural jacks and trodes. Use of neural interface jacks provides a +2 bonus to associated skill rolls and any Initiative rolls relevant to a remote. Use of trodes provides a +1 bonus to associated skill and Initiative rolls. Note that the full bonus for Initiative is only allowed for remote equipment operated by direct signal contact. If the control signal is passing through a local repeating station the bonuses are reduced by one, and if the signal is via satellite, the bonuses are reduced by two. This is explained fully in the Remote Construction System section, under "A Note on Control Interfaces". Though any character receives these bonuses when acting through interface technology, cetaceans operate through remotes almost continuously, and so routinely benefit from them. Cetaceans are, however, culturally opposed to cybernetic implants as a rule and so most frequently operate remotes through trodes instead of neural jacks.

Another valuable consequence of cetacean dependence on telepresence is that they are almost always connected to communications and information resources. Typically, whale characters are online with at least one remote device at all times and therefore have continuous access to computer and CommCore resources. This means that cetaceans are unlikely to ever miss incoming calls or messages, and breaking news rarely goes unnoticed. It also has allowed cetaceans to develop a cultural habit of referencing various online databases as a matter of course, and so always seeming to have a ready answer for most factual questions.

Cetaceans evolved in a three-dimensional world and so have an innate facility for three-dimensional movement. As a result, whales have turned out to be inherently better at the agile piloting of flight-capable remotes and vehicles through difficult maneuvers. Accordingly, when cetacean characters are fully immersed via neural jacks or trodes, they receive an additional +1 bonus to their Remote Operations skill when attempting challenging flight maneuvers.

This innate ability cetaceans have to move in three dimensions is also one of the reasons they make such good spacers. Whales suffer much less zero-g disorientation and discomfort than humans and are uniquely graceful in maneuvering around such environments. In game terms, this is represented by a natural +2 bonus to the Freefall skill.

Many remotes come equipped with sonar or radar arrays. Since cetaceans are neurologically equipped to process and perceive sonar echoes, they are better able to process and comprehend data they receive through such remotes. Whale characters receive +1 to Cognition when working through remote sonar or radar sensors that are capable of outputting data as sound pictures.

MODERATING TELEPRESENCE

At first it may seem intimidating to run games with cetacean characters, and it may seem even more so when they are constantly using telepresence. In practice, however, there is no reason to treat the actions of a remote device any differently than the actions of its operating character. Remotes act with the same mental attribute and skill scores as their operators, modified as described above for interface through jacks and trodes. Remotes do act with unique physical attribute scores and abilities, but these vary by the design of the device and so are left to the Game Master's discretion. Use the remotes described in the *Player's Guide* and the remote use guidelines in the following technology section for guidance in determining such capabilities. It is to the advantage of both the player and the Game Master to carefully describe the design and capabilities of a given remote prior to including it in a game. Such information should include size, shape, weight, locomotion, sensory abilities, manipulators and their strength, power source, and any weapons and armor.

Remotes follow the same initiative rules as the character operating them, again potentially modi-

fied by use of certain interface devices. They act in turn just as characters but are limited to the physical capabilities of their designs. They can attack and are subject to attack. Remote-mounted weapons are fired using the Remote Weapons skill. Remember to adjust target numbers for the remote's size and speed and to use the equipment damage rules to determine damage effects.

Even though many cetaceans consider their remotes extensions of their own bodies, there will invariably be times when players will use their remotes as improvised ramming weapons. When this happens, the attack is made with a Remote Operation roll, modified for the size, speed, and actions of the target. The damage rating of the attack is equal to the mass of the remote in kilograms, up to a maximum of 5. It is also assumed that the remote must be moving at a speed in excess of 10 kilometers per hour to merit a damage roll. Because ramming attacks are typically outside the design specifications of most remotes, the remote itself is subject to damage at the same rating.

Game Masters and players alike should be aware that any device equipped with a remote operation suite is a potential remote. Such impromptu remotes make telepresence an even more robust practice and can be a fun, exciting and unpredictable aspect of game play. Vehicles can suddenly become large, fast, and often well-armed remotes. Domestic computers can lock doors and turn out lights on command, and janitorial robots can suddenly become dangerous ramming weapons. Cargo haulers can be commanded to dump their loads in a busy city street or on an unsuspecting target, kitchen appliances can spew hot water or serve as surveillance devices, and interlinked firearms can suddenly go off in storage or while safely in a holster. The possibilities are limited only by a player's imagination and serve to make telepresence a uniquely empowering technology.

CETACEAN COMBAT TACTICS

Primal cetaceans were the dominant predators in Earth's oceans, and in their genlifted state they are even more formidable opponents. They are clever and intuitive, quick and agile, strong, fit, and imposing. They possess fifty million years' worth of hunting instincts, highly evolved senses, and unmatched grace in their water environment. They are acutely

conscious of the potential of three dimensions and have a level of technological integration that lends them a functional kind of omnipresence. They will always be more lethal in their aquatic environment than any similarly armed human adversary, and when acting in well-trained warpods they are virtually unstoppable.

The following list describes some common cetacean tactics, tricks, and techniques that players can use to take advantage of their whale characters' superior abilities in underwater combat. The appropriateness and effectiveness of such tactics vary widely with circumstances, and so standard rules addressing all situations would be cumbersome and impractical. Game Masters should instead offer skill and attribute modifiers to players based on their appropriate use of such tactics, and players are encouraged to use these tactical descriptions as inspiration for developing their own unique cetacean combat techniques.

Attacking and Defending

- Underwater, three-dimensional movement takes on a whole new meaning. Cetaceans should attack from above and below, as well as laterally or from obscure angles. Conversely, cetaceans should remember to plan defenses with the same three-dimensional perspective.

- Attacks from below typically come from out of the dark and can be given a bonus for surprise. Similarly, attacks from above come out of the scattered light of the surface so may earn a bonus due to that obscuring effect. Both attacks merit a +2 Target Number bonus.

- When a cetacean makes a ramming attack at the surface, he can earn a damage bonus if he precedes the attack with a high leap, allowing his full weight to add to the impact. The damage bonus equals the cetacean's Toughness.

- When fighting in close combat with human divers, cetaceans should attack to damage or dislodge their opponents' dive gear. If these kinds of attacks are successful, they can render the divers helpless.

- As described under swimming, cetaceans are accomplished surfers and can hydroplane in water only a few centimeters deep. These abilities can be used to ambush enemy personnel on the beach or in the shallows and engage them in close combat.

- Both cetaceans and humans are subject to drowning. Cutting off their access to the surface is an excellent way to subdue or even kill opponents.

Detection and Evasion

- Cetaceans attempting to avoid detection should run blind, silencing their echolocation so as not to give away their presence. Additionally, characters hunting for cetacean opponents should listen carefully for stray echoes that could be used to locate

their targets. Characters attempting to locate a cetacean that is running silent suffer a -2 penalty to echolocation or sonar Target Numbers.

- Whales can chase schools of fish into an area to confound defenders or deter sonar detection. They can lead pursuers into kelp forests or sundancer herds; and under the right circumstances, they might even be able to lead dangerous predators to their opponents' position or lead their pursuers into a predator's territory and a potential ambush. This tactic requires a Survival roll with a Target Number based on the difficulty of the task.

- Cetaceans on the attack, on patrol, or simply on the move can swim in tight masses to fool enemy sonar, hiding their actual numbers or mimicking the sizes and shapes of larger, indigenous organisms. Characters attempting to detect cetaceans using this tactic suffer a -2 penalty to echolocation and sonar Target Numbers.

- Natural and artificial noise can be used to confound defensive sonar, masking the movements and hiding the numbers of underwater attackers. Boat engines, hydrophones, explosives, crashing waves, and similar noise sources can all be used to prevent sonar detection. Noise can also be used to confound the sonar of attackers, potentially rendering incoming enemy vessels and cetaceans sonically blind and mute.

- Cetaceans commonly use thermoclines to hide their presence and mask their movements. They can sometimes use thermoclines to shake incoming sonar-guided weapons and to contain their own sound communications. Cetaceans can also use thermoclines to refract their echolocation pulses, fooling enemy sonar receivers into calculating false positions.

- Cetaceans can sometimes break the sonar lock of incoming guided weapons or target acquisition systems by leaping completely out of the water. This evasion is difficult to do and often requires several sequential leaps to achieve. Even when unsuccessful in breaking the lock, the tactic often gains the target valuable time to act as the weapon system works to reacquire. Similarly, as described below, cetaceans can swim into shallow water and even temporarily beach themselves, both of which can also work to shake incoming weapons.

- The mobility, maneuverability, and tracking capabilities of most guided weapons are restricted in shallow water. Whales can use their ability to surf

onto a beach or hydroplane in the shallows to sometimes evade guided weapons.

- Unless equipped with artificial breathing devices or biomods, cetaceans and humans alike must surface to breathe. Watching and listening for a surfacing opponent is often more effective than searching for him below the surface.

- The fact that some objects sink while others float can be used effectively in any number of tactical situations. Explosives intended for a surface target can be delivered well below the mark and released to float up to the target. Carried objects can be released to float away during an encounter, either to free the user for action or as a means of getting the object through the encounter undetected. The objects can then be recovered secretly as they drift up or down accordingly.

Dealing With Surface Vessels

- Leaping attacks over small boats, docks, or similar structures can be used to surprise targets or obtain targets that are out of line-of-sight from the water. Leaping also allows whales to attack with weapons designed for use in air such as standard firearms and surface-to-air missiles. Aerial remotes such as CICADA flyers may be used to acquire targets for missiles if they are equipped with radar.

- Larger whales can breach onto the decks of smaller vessels, swamping, capsizing, or even crushing them with their weight. Smaller whales can do the same to small launches, skiffs, and most native boats. This usually causes damage equal to the cetacean's Toughness.

- A cetacean can stop a smaller seagoing vessel by jamming his CICADA, a fishing net, or some other suitably cumbersome object into the vessel's MHD drive intake.

Remote Combat

- Remotes are extremely effective for reconnaissance and patrols. They are typically smaller, have broader sensory capabilities, and keep personnel out of harm's way.

- Remotes make superior perimeter guards and can be used in overwatch positions to provide battlefield scale perspective or to warn of incoming threats.

- Small, quiet remotes are perfect for tailing suspects and targets under almost any circumstances.

- Remotes can be used to harass opponents, preventing them from taking aim, escaping, planting a

bomb, or any other actions that require freedom of movement or concentration.

- Remotes can be used to create effective distractions. They can be used to make noises, knock over objects, or even project light, voices, or other sounds to distract opponents.

- Remotes equipped with even basic options are de facto communications devices and can be used to interconnect characters otherwise lacking comm gear.

- Remotes are often equipped with onboard computers that are as good as bodycomps and can therefore serve as excellent data ports. They can be used to upload and download, as well as synchronize with other devices, equipment, or character comps.

- Remotes are, of course, effective weapons when armed with onboard guns, tasers, and sonic stunners. They can also be effective improvised weapons when unarmed as well. As described above, remotes can do significant damage when used as improvised ramming weapons.

- Remote operators should remember to take advantage of three dimensions in the same ways as characters underwater. Remotes can go over buildings and woods instead of going through them, and flying in or out of windows is usually faster than finding doors. Remotes high overhead also offer valuable perspectives on any encounter.

- As described above, improvised remotes can be effective resources and weapons. Cetacean players should be constantly aware of the combat potential in vehicles, construction equipment, robots, and other devices around them that can be compromised and controlled remotely.

Many cetacean combat tactics are based on unique physical abilities with numerous applications in game terms. The following rules are intended to serve as guidelines for adapting these natural abilities to play.

INTIMIDATION

Cetacean size and agility are all the more impressive when observed first hand. Their sheer bulk and exceptional grace are intimidating social tools when used against humans actually in the water with them. As a result whales receive bonuses to rolls when attempting to intimidate human swimmers. Commons and fins receive a +1 bonus, bels and pilots receive a +2, and orcas receive a +3 bonus. Addi-

tionally, cetaceans receive similar bonuses to any Persuasion rolls used against swimming humans. By virtue of their background, native characters are used to aquatic interaction with cetaceans and are therefore harder to impress. These bonuses are reduced by 2 when the rolls are made against natives.

Through a long evolutionary history orcas were the main predators hunting other whales, and even though they downplay the effect, the smaller gen-lifted species have not forgotten this. As a result, orcas receive a +2 bonus to any rolls made to intimidate or otherwise coerce the smaller cete species. This bonus is only a +1 against pilot whales.

ECHOLOCATION AS A WEAPON

The sonic vibrations of intense echolocation can carry through the water with sufficient force to be disorienting or even painful. Cetaceans are able to use echolocation pulses to stun prey species or sometimes drive off predators. Against sensitive prey species this ability is a useful hunting tool, and against predators it can mean the difference between life and death. For this ability to be effective the target animal must be sensitive to vibration or sound and in close proximity to the attacking whale.

Echo stunning can also be useful in combat situations involving other cetaceans and even humans, where it works like a weaker version of a sonic stunner. To make an attack, a whale player makes a Cognition roll with the standard +2 TN bonus. If successful, the target must make a Physique roll. If the range is less than 1 meter the roll is unmodified. If the range is from 1 to 2 meters there is a +3 bonus to the roll. Beyond 2 meters echo stunning is ineffective. If the Physique roll is successful the target can ignore the attack. If the roll fails then the target is disoriented and suffers a -3 penalty to all actions for 10-(Physique) seconds.

Since they use echolocation themselves, cetacean targets are less anatomically susceptible to echolocation attacks and are only subject to stun if the attack is a surprise. Human targets are only susceptible if their heads are submerged and unprotected by dive gear or armor. Additionally, almost any sort of barrier between the attacker and the target's head is enough to prevent stun—an airspace, a helmet, dense weeds, or even the target's own body will effectively protect against stun.

CETACEANS AND TRAVEL

Players and Game Masters alike should realize that the versatility of telepresence means that cetaceans can do almost anything they want and remain part of the game action, without actually having to travel anywhere. When they do have to physically move over long distances, overland, or into space, there are various ways this can be accomplished. Most of the technology used to manage this is detailed elsewhere, and players should take advantage of this equipment to avoid the sense of restricted mobility when playing cetaceans.

Swimming, of course, is the most common means for a whale to get from one place to another, and swimming speeds and distances are found in the chart in the next section. Game Masters may allow characters to exceed these distances with successful Endurance rolls. Sail kites can reduce travel time by half and eliminate the need for making endurance rolls over long swims. MHD harnesses and power shells are the most common form of autonomous powered marine transport used by cetaceans. Though not cheap, these

propulsion units turn whales into hybrid submersibles and allow for faster long-range travel. Tow pods further facilitate cetacean travel by allowing them to haul personal items and small cargoes.

There are also several technologies that make cetaceans practical passengers aboard human vessels, allowing for faster transport and a more physical inclusion in the local game action. Slide loaders and travel cradles make including at least small whales in the party's travel plans relatively simple. Other boats and even some aircraft that commonly carry cetacean passengers have special submerged access hatches, water-locks, and integral travel tanks that allow them to rapidly embark and disembark cetacean passengers.

There are even technologies that allow cetaceans to travel in space and participate effectively as visitors or crew members aboard orbitals and spacecraft. Travel cradles are perfectly suited for transporting whales on shuttle craft, and strangely, cetaceans come into their own in zero-g. The freedom from gravity

CETACEAN SPEED AND DIVE DEPTH/DURATION TABLE

Species	Typical Speed (kph)	Maximum Speed (kph)	Typical Dive Depth (m)	Maximum Dive Depth (m)	Typical Dive Duration (mins)	Maximum Dive Duration (mins)
Bottlenose	8–10	40	50	500	2	30
Common	8–11	45	30	280	3–4	8
Beluga	3–9	22	20	650	5	20
Pilot	4–5	40	70	600	7	45
Orca	3–10	50	30–60	300	5	20

coupled with the natural cetacean facility in three dimensions makes whales able spacers. Simple and inexpensive equipment like wetsuits and thruster packs free cetaceans to move about in zero-g environments with practical, if blimp-like, ease. For longer trips, such as transport to or from Poseidon, cetaceans travel in IHMS canisters, just like humans. Cetacean coolers are much larger than those used by humans but otherwise function similarly.

MIXED VENUES

Even though telepresence and travel technologies eliminate the limits on cetacean character participation in games, it is still often fun, interesting, and necessary to have as much direct, physical interaction between cete and human characters as possible.

Aquaforms and diving gear equipped humans can of course get into the water with whales, but there are other more interesting venues that can bring characters of the different species together.

Submarines and underwater facilities with open moon pools allow direct interaction underwater. Boats, barges, floating platforms, docks, and beaches provide access at the surface. Settlements with piers, causeways, and decks suspended over the water provide close proximity and opportunities for direct contact for the different species. A variety of specially designed buildings such as the Sharehouse and the Surge, as well as more common structures such as fisheries, provide places for human and cete characters to interact as well.

MAKING CETACEAN CHARACTERS

Use the standard rules in the *BLUE PLANET Player's Guide*, along with the following new rules, to create cetacean characters. These rules provide new options and more specialized mechanics to make it easier for players and Game Masters to integrate cetacean characters into their games.

The table below provides comprehensive attribute scores for all of the cetacean species available as player characters in *BLUE PLANET*.

ECHOLOCATION

Cetaceans use their Cognition attribute to make tests for echolocation. Due to their enhanced hearing and natural affinity for echolocation, cetes receive a +2 bonus to the echolocation Target Number. The GM is encouraged to ask for rolls when the cetacean is attempting to use the ability in challenging or unusual ways.

AVERAGE/STARTING ATTRIBUTES FOR CETACEANS TABLE

	Bottlenose	Common	Beluga	Pilot	Orca
Physique	2	1	3	3	4
Coordination	-1	1	-2	-3	-3
Cognition	0	-1	-1	0	-1
Psyche	0	-1	0	1	0
Endurance	+3	+2	+3	+4	+3
Reflexes	0	+1	0	-1	0
Toughness	0	0	+1	+2	+2

REMOTE CONSTRUCTION SYSTEM

Many aspects of remotes and remote technology are detailed in the *Player's Guide*. The following system is intended to make the process of creating custom remotes fast and easy for players and Game Masters alike. Any type of remote is possible, not just cetacean remotes.

STEP 1: REMOTE TYPE AND PURPOSE

There are as many different types of remote technology as there are uses for the devices, but most of them fall into one of three categories based on their type of locomotion. There are aerial remotes, aquatic remotes, and ground remotes.

Remotes are built around a specific purpose. There are general purpose remotes which can do a variety of functions, combat remotes built for battle with armored housings and weapon ports, surveillance remotes disguised as Poseidon insects or animals, and many more. You should have a purpose in mind for a remote before proceeding. At each step, as applicable, note the remote's attributes including cost, weight, maneuverability, durability, streamlining, and equipment mounted.

STEP 2: CONFIGURATION

Remotes are built on bioplastic frames that serve as hard points for the attachment of the various components. The frame and attached components are typically covered by a tough bioplastic housing that protects the internals from minor impacts and shields them from the elements.

Remote frames configurations are based on their purpose and type. The five configurations are ball, cube, disk, rectangular box and wedge. Aerial and aquatic remotes tend towards smooth or streamlined configurations, such as ball, disk or wedge. Ground remotes are usually cubes or rectangular boxes, but may be wedges if built for speed. Aerial and aquatic remotes that are streamlined benefit from increased speed, at a higher frame cost. For these remotes, only the disk and wedge configurations may be streamlined.

Note that some of these configurations are general and can describe a variety of shapes. Disk, for example, can be a classic saucer shape or an elongated, thinner cigar or teardrop shape.

STEP 3: FRAME SIZE

Remotes come in five basic size classes: Tiny, Small, Medium, Large, and Huge. The size of the frame is chosen with the purpose of the remote in mind. The size refers to the length or diameter of the overall unit (for ball, cube or disk) or for the length of the longest side (for rectangular box and wedge). In the latter case, the height and width are assumed to be approximately one-half the length. The size of the frame determines the durability, maneuverability, weight, and the amount of equipment that may be built into the remote in question. Any remote larger than Huge is considered a vehicle and should be built as such. Refer to **Chapter 7: Vehicles** in the *Player's Guide* for examples.

Frames are usually constructed of industrial grade bioplastic. The exception is the Tiny remote frame which is made of foamed bioplastic, due to its light weight. A frame of the appropriate configuration may be streamlined. This increases the cost of the frame by 3. Frame sizes are summarized in the Frame Size table.

Remotes are limited by their size in the types of equipment they may mount or have built in. In the succeeding steps, various pieces of equipment are



FRAME SIZE TABLE					
Frame Class	Length/Diameter	Weight	Durability	Maneuverability	Cost
Tiny	2–15 cm	10–500g	–2	+2	50–150 cs
Small	16–30 cm	0.5–1 kg	–1	+1	100–200 cs
Medium	31–60 cm	1–4 kg	0	0	200–350 cs
Large	61–120 cm	5–10 kg	+1	–1	350–500 cs
Huge	121–180 cm	11–20 kg	+2	–2	500–700 cs

given a notation such as S+ or M+. This indicates the remote must be of that size or larger to use the equipment. Tiny remotes are the most restrictive, typically containing only a micro-computer, locomotion, communication link and basic audio/video suite.

STEP 4: ARMOR

Any remote of Small size or larger may be armored. Tiny remotes always have an armor value of 0—they are built for subtlety, not firefights. Armor amounts depend on the purpose, size and type of remote.

Aerial remotes typically have standard bioplastic armor, to save on weight, with an armor value of 1 to 2. Aerial combat remotes may have armor as high as 5, but rarely higher due to weight considerations.

Aquatic remotes follow similar guidelines to aerial remotes, but more often use industrial bioplastic armor since the weight is not as much a factor in the water and provides better protection against water infiltration. Like aerial remotes, aquatic remotes usually have an armor value of 1 to 2 and almost never exceed 5. Ground remotes have the most leeway in armor, based on their purpose. General purpose remotes will usually have an armor value of 1 to 3. Ground combat remotes typically use industrial bioplastic armor for maximum protection, with armor values up to 9.

In selecting armor for your remote, you should first determine the armor value you desire. Standard

bioplastic armor provides up to an armor value of 6 for 1 cm of armor. Industrial bioplastic armor provides up to an armor value of 9 at 1 cm thickness. Remotes very rarely mount more than 1 cm of armor plating. Consult the Bioplastic Armor Value Table to find the thickness of armor needed for the desired armor value.

Once you have selected a material and thickness, refer to the Bioplastic Armor Weight Table to find the weight and cost of the armor based on

BIOPLASTIC ARMOR WEIGHT TABLE		
Size in cm	Weight in kg per mm of Armor	
Longest Length or Diameter	Standard Bioplastic	Industrial Bioplastic
20 cm	0.1	0.13
30 cm	0.2	0.27
40 cm	0.35	0.5
50 cm	0.53	0.75
60 cm	0.75	1.1
70 cm	1.0	1.5
80 cm	1.4	1.9
90 cm	1.7	2.4
100 cm	2.1	3.0
110 cm	2.5	3.6
120 cm	3.0	4.3
130 cm	3.6	5.1
140 cm	4.1	5.9
150 cm	4.7	6.8
160 cm	5.4	7.7
170 cm	6.1	8.7
180 cm	6.8	9.7

Weight adjustment for other configurations:

Ball = Weight \times 0.5

Disk = Weight \times 0.3

Rectangular Box = Weight \times 0.4

Wedge = Weight \times 0.3

Cost for armor (Cost is figured after weight is adjusted for configuration):

Standard Bioplastic: Weight \times 3 cs per mm of armor

Industrial Bioplastic: Weight \times 4 cs per mm of armor

BIOPLASTIC ARMOR VALUE TABLE			
Standard		Industrial	
Thickness	Armor Value	Thickness	Armor Value
1 mm	1	0.5 mm	1
2 mm	2	1 mm	2
4 mm	3	2 mm	3
6 mm	4	3 mm	4
8 mm	5	5 mm	5
10 mm	6	6 mm	6
–	–	8 mm	7
–	–	9 mm	8
–	–	10 mm	9

size. Size refers to the longest length or diameter of your remote. The listed weights are per millimeter of armor. The table assumes a cube frame; adjustments for other configurations are listed after.

STEP 5: COMPUTERS, COMMUNICATION, AND SENSOR PACKAGES

Remotes can carry a vast variety of equipment, both mounted and built-in. The following options cover only a small selection of what a remote can utilize. Players and Game Masters are encouraged to use these entries as a guide when designing remotes with equipment not detailed here.

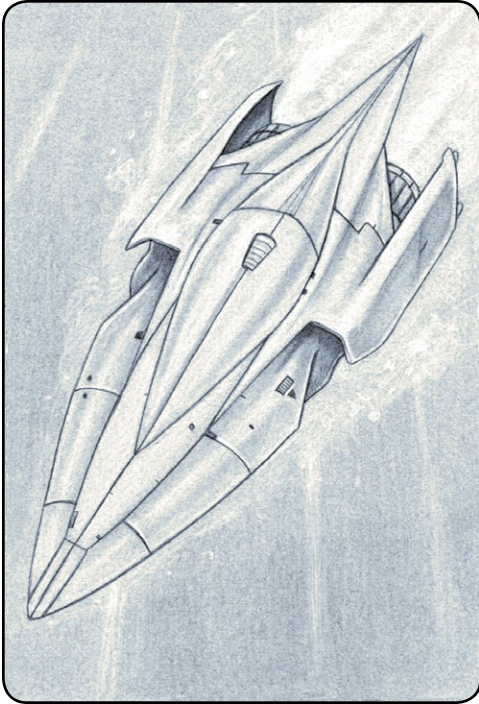
COMPUTERS AND LINKS

Basic Computer

This is the computer typically installed in most non-combat remotes. It is the equivalent of a bodycomp with remote control and GPS software. It can access the Commcore network directly by jack (with the appropriate hardware), or wirelessly. It can accept orders and run programs, but has no ability to interpret situations and act on its own. It can be programmed with orders, such as "Return to base if contact lost." or "Hold position and revert to low power mode." If the remote does act, it does so as if it has relevant skills at a level of 1, with an Average aptitude.

COMPUTERS, COMMUNICATION, AND SENSOR PACKAGES TABLE

Equipment	Cost	Weight	Size	Notes
<i>Computers and Links:</i>				
Basic Computer	200 cs	90 g	T+	Can only act on programmed orders with a skill of 1
Autonomous Computer	750 cs	200 g	S+	Can act with a skill of 3 and interpret situations
Acoustic link	100 cs	50 g	S+	Allows control by cetacean echolocation, 400 m range
Radio link	100 cs	50 g	T+	Allows control by radio signal, 10 km range
Radio link, military-grade	2000 cs	150 g	S+	Allows control by encrypted radio signal, 10 km range
Satellite uplink	1500 cs	1.7 kg	S+	Allows control by satellite, world-wide range
<i>Audio/Video:</i>				
Basic A/V suite	300 cs	0.3 kg	T+	Basic video and audio with telescopic and directional mic
Advanced A/V suite	1000 cs	0.4 kg	M+	Upgraded video and audio package
Holocamera	200 cs	100 g	M+	Can record holographic images
Spotlight	40 cs	0.3 kg	M+	Bright light, 100 m range
<i>Communications:</i>				
Hydrophone	150 cs	0.5 kg	M+	Short range underwater communication
Loudspeaker	60 cs	0.5 kg	M+	Can loudly broadcast audio
Translator	200 cs	300 g	S+	Can translate cetacean into different languages
Ultrasound	150 cs	100 g	M+	Underwater communication via ultrasound
Voice synthesizer	130 cs	0.1 kg	S+	Can speak with an artificial voice
<i>Sensor Packages:</i>				
ECM	2000/Rating cs	5 kg	L+	Rating 1 to 3
Marnoc	2000 cs	0.6 kg	M+	
Phototropic Camouflage	20 × Size cs	10 × Size g	S+	
Radar	1500 cs	3 kg	M+	3 km range
Sonar	400 cs	0.5 kg	M+	400 m range
Targeting System	800	1 kg	M+	Improved targeting of firearms



Autonomous Computer

This is a reactive computer that can assess situations and act accordingly even if no specific programming is present. These computers are usually installed in combat remotes or remotes with specific or non-standard functions. They have all the capabilities of the basic computer, but at a higher level. These remotes are borderline robots in their own right, though establishing a link with the remote automatically shuts off autonomous mode. The remote can act as if it has relevant skills at a level of 3, with a Strong aptitude.

Acoustic Link

This link allows the remote to be controlled by a cetacean using echolocation. The control is not as fine as if done via trodes, and the operator suffers a -2 penalty to actions and initiative when using an acoustic link. The link has an effective range of 400 meters.

Radio Link

This link allows the operator to control the remote through a direct radio signal. The control may be performed manually, through trodes or via neural link. The link has an effective range of 10 km. The

link may be boosted by accessing relay stations, but this imposes a -1 penalty on actions and initiative due to time delay. A military-grade version featuring heavy encryption is also available (-5 to attempts to break encryption).

Satellite Uplink

This link allows the operator to control the remote through a satellite uplink. The control is not as responsive as a direct link, and weather frequently interferes with satellite communications. The operator suffers a -2 penalty to actions and initiative due to time delay, but can control a remote anywhere on the planet—weather permitting.

AUDIO/VIDEO

Basic A/V Suite

This consists of a video camera with telescopic enhancement coupled with an audio system with directional microphone. It is the standard package on any remote, unless upgraded.

Advanced A/V Suite

This package includes a multi-spectrum video camera with light enhancement, telescopic, thermal mode, infrared mode and ultraviolet. It is coupled to a high-grade audio system with sensitive directional microphones and sound enhancement. The entire package grants the operator a +2 bonus to notice things using the video or audio system.

Holocamera

A holocamera records digital video and sound footage using three separate image sensors and microphones. The holocamera then uses interpolation software to fill in the gaps and build a true three-dimensional representation of the recorded object.

Spotlight

This is a simple spotlight that can project a beam of bright light up to 100 meters away.

COMMUNICATIONS

Hydrophone

Hydrophones are an old but useful technology, allowing for coherent, close-range underwater communication. Hydrophones translate the acoustical vibrations of airborne sounds into vibrations in the

surrounding water. They have an effective range of about 50 meters.

Loudspeaker

This is a high volume speaker allowing the remote's audio transmissions to be heard up to several hundred meters away, if so desired.

Translator

An integrated translator converts the user's language into that of the listener and vice versa. Conveniently, translation programs for almost any language are available on CommCore for nominal fees.

Ultrasound Communicator

This device is routinely used for short-range underwater communications. For convenience, most versions operate on the same frequencies as cetacean communication. These units convert electronic signals into ultrasonic streams that carry far better through water than light or radio waves. Range is approximately 100 meters, but it is unaffected by visibility or water conditions.

Voice Synthesizer

A voice synthesizer processes digital and radio signals into audible words. Most can manage sufficient volume to work as address systems, and many can be programmed with a wide variety of voice qualities such as gender and accent. Whales seem to find a great deal of humor in constantly changing the accent and nature of their remote voices, causing endless confusion for humans unaccustomed to cetacean whim.

SENSOR PACKAGES

Electronic Counter-Measures

Used only on military combat remotes, ECM are used to defeat guided missile target "lock-on." The ECMs' rating determines the vehicle's ECM rating for the purposes of target acquisition. For remotes, ratings range between 1 and 3. The use of ECM in combat is described under **Vehicle Combat** in the *Player's Guide*.

Marnoc

A millimeter-wave radar binocular, or marnoc, can detect and analyze objects at range. Its resolution is poor, but it can be tuned to penetrate thin mate-

rials and generate usable reflections of any objects underneath. The most common use of marnocs is as remote weapons detectors. They can reveal concealed blades, firearms, or body armor under normal clothing or hidden compartments in light vehicles. Marnocs are also common medical tools used to locate foreign bodies, bone breaks, and cyberware.

Phototropic Camouflage

Used primarily on military combat and recon remotes, the remote is coated with a phototropic surface. This causes the remote's surface to automatically match its surroundings, giving a -4 penalty to anyone attempting to visually spot it.

Radar

This sensor package uses high-frequency radio waves to determine the range, position, velocity, and other characteristics of surface vehicles and aircraft. Remote radar is fairly short range, with an effective range of 3 km.

Sonar

Sonar is used primarily for underwater navigation. It has an effective range of 250 meters and works by bouncing ultrasonic pulses off of their surroundings, forming images of these surroundings by interpreting the echoes. Sonar does not require light and cannot perceive color. However, sonar can give the user information about the density of objects. The user is also capable of hearing other ultrasonic sounds such as those made by certain mechanical and electrical devices.

A Note on Control Interfaces

Control of remotes, as noted in the *Player's Guide*, can be accomplished via manual interface, trodes, or neural interface. Manual interfaces grant no bonus or penalty on actions and initiative. Trodes grant a +1 bonus to actions and initiative, and neural interfaces grant a +2 bonus to actions and initiative.

The modifiers from link types stack with interface modifiers. So an operator using a manual interface (+0) over a satellite uplink (-2) suffers a -2 penalty to actions and initiative. The same operator using a neural interface (+2) would have no bonus or penalty over a satellite link.

Targeting System

A targeting system allows the remote to acquire and engage targets and is mandatory for any firearm equipped remote. The various targeting sensors and predictors grant the operator a +1 bonus to firearm attacks made through the remote. The same bonus is given when the remote is operating autonomously.

STEP 6: MANIPULATORS AND TOOLS

There are countless manipulating devices used in remote design. Most remote manipulators can perform the same tasks as human hands, such as typing, opening doors, conducting surgery, firing standard handguns, or flipping the bird. More exotic designs can perform specialized tasks such as interfacing with computers, slicing through bioplastic, spearing fish, or spraying paint. Not every remote needs manipulators. If your design does this step covers that process; otherwise skip ahead to Step 7.

Manipulators have Physique and Coordination scores to represent their lifting strength and manual dexterity. Each arm type has base scores in each that are modified by the type of attachment at the end of the arm and the size of the remote.

Basic Arm

This is a normal, jointed, hydraulic arm. It is considered to have a base Physique of 0 and Coordination of 0.

Heavy Arm

A heavy arm has a reinforced structure with high-strength hydraulics that allow it to lift heavy loads. It has a base Physique of +2 and Coordination of -2. Arms with more lifting strength are detailed on the table below. Only ground remotes of Medium size or larger can mount heavy arms.

Ribbon Arm

A ribbon arm consists of segmented tubes moved by internal cybernetic assemblies. Though more expensive than jointed limbs and not as strong, ribbons are more versatile and dexterous. It has a base Physique of -2 and Coordination of +2.

Gripper Claw

This is a simple claw that can grip items and manipulate them to a degree. A claw has good gripping strength, but lacks manual dexterity. It adds +1 Physique and -1 Coordination to the arm.

Hand

This is a full five (or more!) fingered hand with thumb. It possesses excellent manual dexterity, but lacks the brute force of a claw. It adds -1 Physique and +1 Coordination to the arm.

Computer Jack

This is an telescoping plug that can jack into any computer with a port. It gives the remote's computer the ability to connect a maincomp, bodycomp or public terminal. Once connected, the computer or operator can attempt to bypass security to gain access to files, control remote devices such as security cameras, or just gain access to Commcore for information.

Cutting Shears

This is a set of shears designed to cut through bioplastic or even light metal. It can only be mounted on a remote of Medium size or larger. The shears can be used as a weapon with Damage Rating based on the size of the remote; Medium shears have DR 4, Large shears have DR 7, and Huge shears have DR 10.

Hotwire Cutter

A Hotwire cutter consists of a stiff alloy cutting wire, control circuitry, and a battery. When activated, the wire heats instantly to temperatures in excess of 1,000°C and will therefore quickly melt anything less than industrial-grade plastics. The rod is typically less than half a centimeter in diameter and of variable length. A wire can be plunged into plastic point first or used like a blade. It can only be mounted on a remote of Small size or larger.

A hotwire can cut through plastic of various thickness, but the thicker the material, the slower the cut. Up to 1 centimeter will cut at a rate of 1 meter per Action Round. From 1 to 5 centimeters cuts at a rate of 1 meter per 5 Action Rounds. More than 5 centimeters, up to the length of the cutting rod, will cut at a rate of 1 meter per 10 Action Rounds. It is not unheard of for hotwires to be used as improvised or particularly intimidating weapons. In a fight, hotwires have a Damage Rating of 5, and they reduce the effect of personal body armor by 1.

Juicer Sprayer

"Juicer" is the slang term for any small, pressurized spray canister containing bioplastic solvent. These highly reactive solvents are typically only used in industrial or construction applications.

MANIPULATORS AND TOOLS TABLE

Manipulator/Tool	Cost	Weight	Size	Notes
Basic Arm	150 cs	1 kg	Any	Physique 0, Coordination 0
Heavy Arm	250 cs	2 kg	M+	Physique +2, Coordination -2
Heavy Arm 2	400 cs	2.3 kg	M+	Physique +3, Coordination -3
Heavy Arm 3	700 cs	2.7 kg	L+	Physique +4, Coordination -4
Ribbon Arm	550 cs	0.25 kg	Any	Physique -2, Coordination +2
Gripper Claw	110 cs	0.5 kg	Any	Physique +1, Coordination -1
Hand	200 cs	0.25 kg	Any	Physique -1, Coordination +1
Computer Jack	50 cs	—	Any	Allows direct connection to computer terminals
Cutting Shears	200 cs	2 kg	M+	
Hotwire Cutter	75 cs	0.3 kg	S+	Tool does not scale for size (see below)
Juicer Sprayer	300 cs	2 kg	M+	
Micro Winch	600 cs	1 kg	S+	Tool does not scale for size (see below)
Saser Torch	1500 cs	3.5 kg	M+	Tool does not scale for size (see below)
Tool Arm, Electronic	1500 cs	1.2 kg	S+	Tool does not scale for size (see below)
Tool Arm, Mechanical	1000 cs	2.3 kg	M+	
Tool Arm, Medical	2000 cs	1.1 kg	S+	Tool does not scale for size (see below)

Juicer sprayers are made of metal with a nozzle and sufficient pressure to spray a fine stream of solvent about 10 meters. The solvent is an enzyme analog that rapidly turns bioplastic into a thick but inert fluid, and one liter of solvent can dissolve approximately five kilograms of bioplastic. The reaction takes only minutes, and a narrow stream can slice through centimeter-thick plating almost as quickly as the solvent can be applied. A Medium sprayer has a 2 liter solvent tank, a Large sprayer has a 4 liter tank, and a Huge sprayer has a 6 liter tank. It can only be mounted on a remote of Medium size or larger.

Micro Winch

A micro winch uses micro cord, a versatile form of high-strength monofilament line. Micro cord is translucent, one millimeter in diameter, and has a tensile strength of approximately 1,000 kilograms. A winch typically contains 2,000 meters of micro cord, terminating in a hook, magnetic disk, or bioplastic adhesion disk. The adhesion disk uses enviroseal to bond to bioplastic with a tensile strength in excess of the line itself, which can then be released with the application of a light electrical current. Some more expensive models may integrate a gun-like apparatus to launch the disk to a target. It can only be mounted on a remote of Small size or larger.

Saser Torch

This is a short-range, industrial version of a saser weapon. A saser torch focuses its energy at a point

three centimeters beyond its nozzle, and cutting power, depth, and spread are adjustable and computer controlled. The torch is effective as an underwater construction and demolition tool, with a contact Damage Rating of 10. It readily slices through corals and soft stone, and on wide focus it quickly strips organic encrustation from boat hulls. An integrated battery provides about one hour of power. It can only be mounted on a remote of Medium size or larger.

Tool Arm, Electronic

This is a jointed, hydraulic arm with built-in and attached tools to perform electronic work. With the correct software, a remote with this arm could repair—or sabotage—electronic devices from bodycomps to security cameras. The price of the arm includes the software for a remote with an autonomous computer. It can only be mounted on a remote of Small size or larger.

Tool Arm, Mechanical

This is a jointed, hydraulic arm with built-in and attached tools to perform mechanical work. The arm contains all the tools needed to strip a jumper fan, repair a firearm or fix a squeaky hinge. The price of the arm includes the software for a remote with an autonomous computer. It can only be mounted on a remote of Medium size or larger.

Tool Arm, Medical

This is a jointed, hydraulic arm with built-in and attached tools to perform basic medical and surgical duties. This includes stopping bleeding, stitching wounds and administering medicines via ultrasonic hypo. The price of the arm includes the software for a remote with an autonomous computer. It can only be mounted on a remote of Small size or larger.

The attributes, cost, and weight of manipulators and tools assume they are crafted for a Medium size remote. These values change if the remote is smaller or larger, except where noted on the Manipulators and Tools Table. The Physique scores of aerial and aquatic remotes are also affected by their lack of leverage.

MANIPULATORS AND TOOLS TYPE/SIZE MODIFIERS TABLE

	Physique Modifier	Cost Multiplier	Weight Multiplier
<i>Remote Type:</i>			
Aerial	-2	—	—
Aquatic	-2	—	—
Ground	0	—	—
<i>Remote Size:</i>			
Tiny	-2	× 0.5	× 0.05
Small	-1	× 0.75	× 0.5
Medium	0	× 1	× 1
Large	+1	× 2	× 2
Huge	+2	× 4	× 4

STEP 7: CARGO AND CARRYING CAPACITY

Unless specifically designed and powered for cargo hauling, most remotes are severely limited in the weight and volume of cargo they can carry. Typical flight-capable remotes can lift no more than 20% of their own weight, ground remotes can carry 50%, and aquatic remotes can haul 75% of their own weight. A remote can only carry an object if it has appropriate manipulators or cargo space, so these capacities are also limited by frame design and manipulator type and strength.

A remote can be designed to carry cargo. Such a remote can carry twice normal load, but must pay twice normal cost for propulsion (See Step 9). Even then the remote's final speed is multiplied by 0.75 when carrying a full load.

STEP 8: WEAPONS

Combat and law enforcement remotes as well as many multipurpose devices are typically equipped with one or more onboard weapons systems. Given the versatility, mobility, and expendability of remotes, this can make the devices extremely lethal in combat.

Spikes and Blades

Remote-mounted spikes and blades are simple, dependable, quiet, and usually legal. They can be fixed or retractable. Blades are most common on flight-capable remotes. Attacking with remote-mounted blades requires a successful Remote Weapons roll modified for the movement of both the attacking remote and the target.

Remote Firearms

Remote firearms are essentially identical in function and capability to the different types of traditional small arms. Remote guns are more compact and can be pod mounted as external components, or they can be integrated into a given design. All designs have external ports for loading propellant and caseless ammo cartridges, and only those with manipulators are capable of self-loading. Gun bores can be external, covered, or even retractable.

Ammunition capacity is based on size and weapon type. Ammunition capacities for light machine guns, grenade launchers, mini-torpedo launchers, and missile tubes are given in the Weapons Table and may not be increased. Small remote firearms have maximum ammo capacities equal to the standard weapon. Medium, Large, and Huge remotes may have double the standard capacity by paying for the cost of the extra ammunition, plus an extra 10% for the larger ammo bin. A Huge remote may have triple the standard capacity by paying for the cost of the extra ammunition, plus an extra 20% for the larger bin.

Powered weapons such as stun guns and sasers run off their own supplies. When exhausted they may be charged from the remote's power supply. This typically takes several hours, so only remotes with robust power supplies are able to do this.

Remote firearms are fired using the Remote Weapons skill and accessories like targeting systems can be utilized. Recoil is a problem for remotes in flight, due to the lack of traction and typically low-mass characteristic of this class of device. Aerial remotes suffer 1 extra point of recoil when firing ballistic weapons. This doesn't include the grenade launcher,

mini-torpedo launcher or missile tube due to their low exit velocity.

Exotic Weapons and Explosives

Remotes can be equipped with more exotic weapons as well. These too are modified in design for use with remotes, but within the game they follow the basic rules established for such devices. Remotes can carry sonic stunners, and heavier remotes can also be equipped with SASER weapons. Tiny and Small remotes may also sport needle injectors, especially for covert use, which can deliver any number of drugs or toxins.

The largest CICADAs and military remotes sport hardpoints to which various weapons systems can be mounted such as grenade launchers, mini-torpedo launchers, or missile tubes. Remotes are commonly used to defuse and set explosive charges, and some military remotes are designed to plant and recover land and aquatic mines. Some missile and bomb designs are as much remote as they are weapon, and even general-use remotes with some small lifting capacity can be used to deliver grenades or plastic explosives to distant targets.

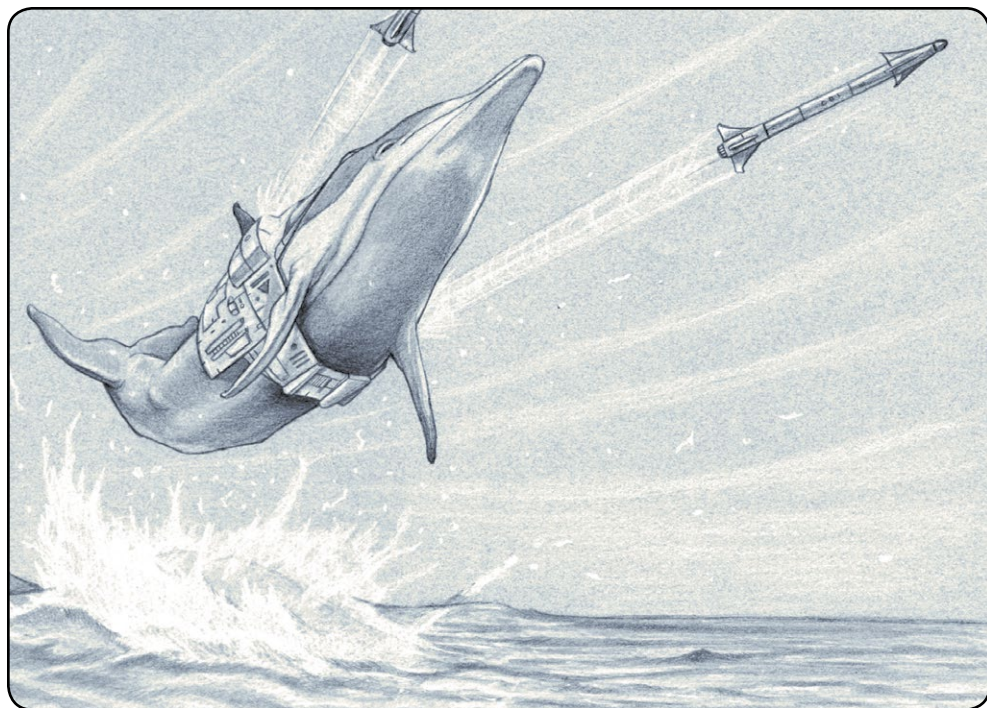
REMOTE WEAPON ALLOWANCE TABLE

Remote Size	Weapons Allowed
Tiny	Needle injector (1)
Small	Pistol (1) or blade
Medium	Pistol (2) or PDW (1) or blades
Large	Pistol (3) or PDW (2) or shotgun (1) or rifle (1) or grenade launcher (1) or mini-torpedo launcher (1) or blades
Huge	Pistol (4) or PDW (3) or shotgun (2) or rifle (2) or grenade launcher (2) or mini-torpedo launcher (2) or man-portable missiles (2) or light machine gun (1) or blades

The size of the remote dictates the number and type of weapons it may mount, as listed on the Remote Weapon Allowance Table.

STEP 9: LOCOMOTION

Flight-capable remotes are commonly driven by small, omnidirectional, variable-speed fans that provide lift and maneuvering thrust. The size and number of fans vary depending on the devices' size and weight, but most sport between three and eight fans. Airborne remotes are limited to the same 5,000



WEAPONS TABLE				
Weapon	Damage	Cost	Weight	Notes
Needle Injector	1	300 cs	50 g	Can carry up to 4 injections worth of drugs
Stun gun	Stun	550 cs	1.2 kg	As stun gun
Blades	2/3/4/5	By Size (see notes)	0.2/0.5/1/1.5kg	Cost: Small 300 cs, Med 450 cs, Large 600 cs, Huge 750 cs
Small Pistol	6	500 cs	0.7 kg	
Large Pistol	7	800 cs	1.2 kg	
Small PDW	6/9	900 cs	2.2 kg	
Large PDW	7/10	1300 cs	2.7 kg	
Light Rifle	6	350 cs	1.2 kg	
Ranch Carbine	7	550 cs	2.2 kg	
Assault Rifle	7/10	1100 cs	3.2 kg	
Semi-auto Shotgun	7	400 cs	2.7 kg	
Automatic Shotgun	7/10	1100 cs	2.7 kg	
Light Machinegun	11	6600 cs	6.5 kg	500 round box
Grenade Launcher	By Type	2000 cs	2.4 kg	4 grenade capacity
Mini-torpedo Launcher	By Type	4300 cs	3.4 kg	4 mini-torpedo capacity
Missile Tube	By Type	7000 cs	6 kg/missile	Up to 2 missiles
Saser Pistol	7	900 cs	1.1 kg	Medium and larger remotes
Saser Carbine	8/11	2200 cs	2.5 kg	Large and Huge remotes

meter altitude ceiling as fan driven vehicles but are more susceptible to high winds and so typically operate much nearer the ground.

Aquatic remotes are driven by small MHD drives and impellers. The speed of submersible remotes is severely limited by the high drag of the surrounding water.

Ground remotes are commonly motivated by walking legs, but many designs are driven by tracks or wheels. Walkers, as legged remotes are called,

have two or more multi-jointed, independently suspended legs that end in claw- or pad-like feet. The more legs a remote has, the slower but more stable and durable it is. Tracked remotes are more durable and offer more traction than wheeled devices, but those driven by wheels can be much faster.

The locomotion types, minimum and maximum speeds per Action Round, and costs are shown on the Locomotion Table. The base cost purchases the minimum speed; a higher speed is gained by paying

LOCOMOTION TABLE				
Locomotion Type	Minimum Speed	Maximum Speed	Base Cost (cs)	Cost per Meter
Fans	10	50	150	20
MHD	5	10	80	20
Legs (Biped)	5	15	100	25
Legs (Multiped)	5	10	120	25
Tracks	5	20	85	30
Wheels	10	50	60	15

Cost modifiers, by Size:

- Tiny: $\times 0.25$
- Small: Base Cost
- Medium: $\times 2$
- Large: $\times 4$
- Huge: $\times 8$

Streamlining increases the final speed of aerial and aquatic remotes by $\times 2$.

LOCOMOTION WEIGHT BY SIZE TABLE

Weight by Size	Fan	MHD	Leg (biped)	Leg (Multiped)	Track	Wheel
Tiny	50 g	50 g	50 g	100 g	–	–
Small	0.5 kg	1 kg	1 kg	2 kg	2 kg	1 kg
Medium	1 kg	2.5 kg	2.5 kg	4 kg	5 kg	2.5 kg
Large	2 kg	5 kg	5 kg	8 kg	10 kg	5 kg
Huge	5 kg	10 kg	10 kg	15 kg	20 kg	10 kg

the Cost per Meter, up to the maximum speed. The final cost and weight of the system is determined by the Size of the remote, as shown in the Locomotion Weight By Size Table.

STEP 10: POWER SOURCE

Most remotes are powered by batteries that vary in size and effective life depending on the size and capabilities of a given device. Battery life varies depending upon activity levels. Most designs have integrated induction chargers or power jacks that can be used to recharge batteries in only minutes. Many designs also have integrated solar chargers that can recharge drained batteries in a few hours or extend battery life by several hours in bright conditions.

All remotes require at least one power cell to handle basic functions and locomotion. Installed equip-

ment may require a separate power source. Such equipment includes powered systems like radar, sonar, Marnoc, weapon and targeting systems, and spotlights. Active sensors—radar, sonar and Marnoc—each need a dedicated power cell, usually a heavy cell. Miscellaneous systems such as weapon and targeting systems, spotlights and loudspeakers need one additional cell, usually a standard cell. The type of cell needed for basic function is determined by the size of the remote, as shown in the Remote Power Source Table. Details of cell costs and weights can be found in the *Player's Guide*.

STEP 11: FINISHING TOUCHES

Add up total cost and weight. Decide on appearance, color and any accessories such as running lights and designs (especially on cetacean remotes).

CETACEAN EQUIPMENT

Numerous classes of cetacean-specific equipment, tools, and devices are described in the *Player's Guide*. The following items add to those listings, further increasing the functionality, effectiveness, and playability of cetacean characters.

CAT BUOYS

Cetacean access terminals are the aquatic equivalent of public CommCore kiosks and are common in waters with large whale populations. Though the majority of cetaceans have CICADAs, they do not

always bring them on local swims. CATs provide users, cetacean and human alike, with trodes, echo-location, and even manual interfaces access to local CommCore relays, public communications bands, and satellite uplinks. CAT access is paid for per use or on a subscription basis and can support sophisticated remote control signals, telepresence, encrypted communications, and computer processing and applications, as well as free emergency law enforcement and rescue calls. Most services are reasonably priced and costs vary by access type.

REMOTE POWER SOURCE TABLE

Remote Size	Cell Type	Duration	
		High Activity	Low Activity
Tiny	Micro	10 minutes	3 hours
Small	Mini	20 minutes	6 hours
Small	Standard	1 hour	10 hours
Medium	Standard	30 minutes	6 hours
Large	Heavy	5 hours	25 hours
Huge	Heavy	3 hours	15 hours
Huge	Industrial	As Heavy, but uses 1 cell with increased duration	
			15 hours

CATs typically float at the surface, moored to the bottom by long plastic cables. The buoys are missile-shaped, and the GEO sponsored models are bright signal yellow. The structure rides two-thirds submerged with the sonic and visual pickups just below the surface. Several aerals and a satellite dish extend from the exposed end, and bright strobes flash at both the upper and lower tips of the structure. Sturdy solar panels protrude from the exposed end, serving to recharge the integrated batteries. In waters relatively safe from predators that may be attracted by sound, CATs give off a hypersonic locator pulse that cetaceans can hear for several kilometers.

CATs are a common device in newer colonies with relatively high cetacean populations and are even beginning to appear in outlying native settlements. Larger versions are becoming common in urbanized harbors, especially in the cetacean-centric town of New Fremantle. These oversize CATs exploit a unique market, serving as aquatic vending machines offering kibble, medicine, intoxicants, batteries, and even hydrogen fuel.

Dimensions: 35 kilograms, 4.5 meters

Power Source: Industrial cell with solar recharger

Rigging Value: Standard

Durability: 1

Legality: Legal

Availability: Rare

Cost: 3,700cs

CETACEAN COLD SLEEP CAPSULE

Cetacean cold-sleep capsules vary in size based on the species they are intended to accommodate, but they are significantly larger than human occupant coolers. Functionality is similar, however, except for key elements required to support whale passengers. Fortunately, the zero-g environment of space eliminates the need to support cetacean bodies in water, greatly reducing total cooler mass and simplifying the loading process. Cetacean coolers do maintain a humid internal environment to protect their occupants' skins from drying out, and they operate at significantly lower temperatures to mitigate the inherent tolerance of whales for cold conditions.

Transports rarely include more than a few cetacean canisters because they are more expensive and take up to four times the space and mass allowances as human canisters. This economic bias is one of the key factors contributing to the bottleneck that hinders whale immigration to Poseidon. As with human

canisters, cetacean coolers can be used as long-term life support in conjunction with medical treatments. Facilities with cetacean coolers are rare on Poseidon, and as with human occupants, whales must check for post-sleep syndrome upon revival.

Dimensions: Up to 10 meters long by 5 meters wide, 560 kilograms

Power Source: External with industrial cell backup

Rigging Value: Standard

Durability: 1

Legality: Legal

Availability: Rare

Cost: 24,000cs

CETACEAN NUTRITIONAL COMPLEX

CNC, or kibble as it is jokingly called in the cetacean military ranks, is a nutritionally complete food product intended for use by whales unable to hunt or otherwise without access to fresh fish. The product provides all the nutrients and energy a cetacean needs but remains unpopular as most whales consider hunting a necessary, enjoyable activity and a key socializing component of their culture. Kibble is most commonly used by cetacean spacers and soldiers where hunting is impossible or where it may interfere with normal operations. CNC is also fed to hospitalized whales unable to feed normally.

CNC comes packed in standard 2 kilogram blocks wrapped in digestible casings similar to those used to make baggies. It is packed in 50, 200, or 1,000 kilogram crates. The substance is a thick, moldable paste, and the unfortunate connotations of its dull brown color are not lost on those forced to eat it. Luckily, cetaceans do not chew their food and lack a notable sense of taste and so their dislike for the material is philosophical rather than practical. Humans can survive on kibble as well but find both the flavor and texture revolting. The superior nutritional content of CNC and the reduced energy expenditure in acquiring food means that cetaceans on a kibble diet require 20% less food than when hunting and eating natural prey.

Dimensions: 1.0 liter per kilogram

Power Source: None

Rigging Value: N/A

Durability: N/A

Legality: Legal

Availability: Uncommon

Cost: 5cs per 2 kilogram brick

CETACEAN RESCUE HARNESS

Cetacean rescue harnesses are simple inflatable devices that hold injured, sick, or exhausted cetaceans at the surface, allowing them to breathe without having to move or expend energy. A standard harness is vest-like and slips on over the head and cinches down with pull straps. It holds the wearer at the surface with his blowhole above the water, allowing him to drift safely along even when unconscious. Military weapons harnesses and some utility harnesses have rescue bladders that inflate on command or automatically when signaled by integrated biomonitors. rescue harness bladders are brightly colored and have integral locator beacons to facilitate aid in search and rescue efforts.

Dimensions: Variable by species, up to 5 kilograms

Power Source: Standard cell with solar charger

Rigging Value: Standard

Durability: 0

Legality: Legal

Availability: Uncommon

Cost: 230 cs



CICADA ACCESSORIES

There is an ever-increasing array of integrated and after-market accessories available for CICADAs. Most are made by Hydrospace or its subsidiaries and add significant functionality or safety features to cetacean activity drones. Most are relatively small, adding little bulk or drag, and most can be installed with minimal technical know how.

Bangers

Bangers are similar in intent to survival grenades and are designed to deter threatening predators. Some designs are fixed accessories that can be used repeatedly. When activated, they emit powerful sonic pulses and stroboscopic flashes.

Integrated bangers give characters a +1 bonus on any rolls made to evade a hunting predator. Other types of bangers are dispensed from the CICADA like tiny depth charges with the intent of leading hunting predators on an electronic goose chase. Launcher designs hold up to five individual bangers and provide a +3 bonus to rolls to evade predators.

Cost: 125 cs for fixed unit, 100 cs for launcher unit, and 20 cs per banger.

Emergency Air Supply

Emergency air supplies are small compressed gas reservoirs with integrated regulators and breathing pods. On command, the breathing pod umbilical uncoils from its small housing, allowing the CICADA's manipulators to strap the pod in place over the user's blowhole.

This device allows a cetacean either desiring to remain submerged or somehow prevented from surfacing to greatly extend his bottom time. Emergency supplies provide up to one hour of air, assuming the user takes breaths only every few minutes.

Cost: 475 cs

Integrated Gill

Similar in function to an artificial gill pack, this device allows the user to stay submerged indefinitely. The umbilical is 10 meters long and retractable, and the breathing pod has a built-in harness that holds it comfortably in place over the user's blowhole. The system offers the user the ability to remain submerged without the constant encumbrance of a gill pack.

Cost: 955 cs

Limpet Sonophone

This accessory is particularly useful for whales that work around underwater facilities. The sonophone is a sensitive microphone that sticks by suction to the bulkhead of habitats and subs and allows the user to hear sounds from within. A powerful contact speaker allows the user to broadcast sound through the bulkhead as well. The sound quality in either direction is poor but intelligible, making the unlikely device rather useful. Sonophones are also valuable tools in espionage applications and can be integrated into surveillance remotes as easily as into CICADAs.

Cost: 210 cs

Repellent Dispensers

Repellent dispensers are small reservoirs of noxious, opaque chemicals that can be used to deter hunting predators. On command, a dispenser will flush its contents into the surrounding water, creating an obscuring and pungent cloud that gives users a +2 to any rolls used in evading predators.

Cost: 55 cs and 15 cs per chemical charge

Taser Defenses

Bangers and repellent are not always enough to deter predators, and sometimes all they do is draw a creature's attention to a CICADA. As an additional means of fending off predators and protecting their remotes,

some cetaceans install taser-like accessories. These consist of small hemispherical electrodes mounted at opposite ends of the CICADA that develop a high-voltage electrical field on command.

The field functions like a stun baton, but with an effective range of one meter given the conducting properties of seawater. These devices are often more effective against troublesome whale and human targets than they are against predators. Taser defenses use a standard cell as a power source, which can deliver thirty shocks on a single charge.

Cost: 240 cs

CONESTOGA

"Conestoga" is the general term for a variety of portable structures that allow cetaceans to work more efficiently at depth. These devices are elongated, inverted domes used to trap large pockets of breathable gases. The gases are either provided from surface compressors or by onboard reservoirs. Stogas can be weighted with ballast and suspended in the mid-water or tethered to the bottom.

'Stogas provide users with a quick-access breathing space that eliminates the need to continually swim to the surface for air. They allow cetaceans to work more efficiently at depth and without having to deal with the encumbrance of artificial gills or heliox rigs (see below).

CYBERNETICS

Cetaceans as a rule rarely undergo cybernetic modification. The occasional cete will sometimes opt for biomodification, but even this is often a traumatic experience. It is not that whales find the actual surgical processes frightening or are opposed to the technology on some philosophical basis. The cultural resistance to cybernetic implants is a psychological one that even cetacean specialists have been unable to fully explain, and the best they can offer is an analogy from human behavior.

Acrophobia is a human psychological condition that affects a small number of individuals, making some people mortally terrified of heights. Though there are drug and genetic therapies that can mitigate the condition, the fear itself is still largely unexplainable. Even the victims of the phobia are unable to offer any rationale for why they feel the way they do. Luckily, acrophobia affects only a small number of people.

Cetologists assert that the abhorrence most whales feel toward cybernetics is a similarly unexplainable phobia, but instead of affecting a small percentage of individuals, the condition occurs in the overwhelming majority of cetaceans. They simply cannot stand the idea of artificial objects in their bodies. A rare few are able to tolerate cybermods, typically when they are required for some purpose to which an individual is fully dedicated. Others can hardly even consider the idea without becoming emotionally upset. Still others are so disturbed by the concept that they are unable to even talk to humans who have obvious cybernetic implants without becoming physically ill.

Conestogas vary in size but most can accommodate two orcas, three pilots or belugas, or up to six members of the smaller species at the same time. More sophisticated models include both internal and external lights, communications systems, onboard computers, dedicated remotes, resting slings, equipment racks, and even heaters. Many designs also feature windows or transparent hull sections.

Dimensions: 3 meters wide and 12 meters long

Power Source: Industrial cell

Rigging Value: Standard

Durability: 2

Legality: Legal

Availability: Scarce

Cost: 5,000–35,000 cs

HELIOX HARNESS

A heliox gas harness allows cetaceans to greatly exceed the depth limitations of an artificial gill. The harness supports up to six small compressed gas reservoirs within a streamlined housing. A breathing pod seals over the user's blowhole and provides a regulated mixture of helium and oxygen, eliminating the dangers of nitrogen narcosis. More expensive rigs also function as utility harnesses with several integrated manipulators and tool sets. These devices provide up to eight hours of bottom time, depending upon depth and activity level, and double a cetacean's normal depth limit. Though cetacean decompression times are typically half that for humans, whales using heliox rigs are still subject to those limits.

Dimensions: 18 kilograms for small species, 27 kilograms for large species

Power Source: Standard cell

Rigging Value: Standard

Durability: 1

Legality: Legal

Availability: Scarce

Cost: 1,230 cs; 2,200 cs with integrated utility functions

HUNTER REMOTES

Hunters are small, single-purpose underwater remotes used by cetaceans forced to hunt alone to increase their productivity. Considered a kind of cheating, hunter remotes are nonetheless valuable in situations where hunting is a matter of survival rather than recreation. Hunters are small, streamlined, high-speed devices with powerful sonic emitters. Typically used in constellations of three or more,

they help hunting whales by flanking their prey and herding schools together or chasing large animals toward the hunter. Hunter remotes herd their targets by emitting loud sonic pulses analogous to cetacean echolocation. These vibrations are strong enough to startle and sometimes disorient prey, facilitating their capture.

Hunter remotes have basic navigational programming and can track and follow their controller and targets by keying on the controller's echolocation signals and reflections. Echolocation is also used to give hunters supplementary commands and to manage fine control. Hunter remotes typically have no other hardware or accessory capabilities.

A single cetacean may add a +1 bonus to his Hunting skill for each hunter remote he has in use. Insurgent warpods have reportedly used hunter remotes to confuse enemy sonar by creating diversions, hiding their numbers, and shielding their activities.

Dimensions: 0.7 kilograms

Power Source: Standard cell

Rigging Value: Standard

Durability: 0

Legality: Legal

Availability: Uncommon

Cost: 160 cs each

INTEGRATED REMOTE CONTROL NET

Integrated control nets are most common in facilities and installations that have a high level of remote traffic but where the structure or environment conspires to limit the range of remote control signals. Control nets are found in almost every underwater habitat and space orbital as well as large surface buildings and underground complexes. The control net consists of landlines and relay antennae that are part of the facility's integrated electrical systems.

The net offers numerous channels over which an operator can control his remote when either he or it is inside a facility. Control signals can originate outside the facility or may be run point-to-point within an installation. Control nets can operate seamlessly or they can be programmed with access codes in secure areas. Control nets reduce the broadcast power required to maintain a control signal and also reduce the effectiveness of jamming.

Dimensions: Integrated into facility structure

Power Source: Facility power grid

Rigging Value: Impossible

Durability: –1

Legality: Legal

Availability: Common

Cost: 5 cs per square meter of floor space

RESTING SLING

Resting slings vary in size and design and are simple devices used to hold resting cetaceans at the surface where they can breathe freely and sleep without having to actively work to remain afloat. Slings can be small, inflatable, and relatively portable, or they can be larger, fixed parts of permanent structures. A typical sling consists of a pair of pontoons, rigid rails, or pilings that support a flexible hammock-like sling with cutouts for the occupant's pectoral fins. Slings typically have adjustable tension and are set to hold the occupant with his blowhole safely above the surface.

To enter a sling, a whale simply makes a short surge forward and slips into place. Exiting requires a similar forward lunge, and except for a bit of splash, the effort is nominal. Resting slings are commonly used by cetaceans doing full immersion telepresence, working alongside humans where space constraints make natural movement impractical, or where long rounds of arduous activity are punctuated by specific rest periods. They are also commonly used in medical facilities equipped to support unconscious cetacean patients.

Dimensions: Variable by species, up to 35 kilograms

Power Source: None

Rigging Value: Basic

Durability: 0

Legality: Legal

Availability: Uncommon

Cost: 40–180 cs

SONIC CONFOUNDER

Sonic confounders are used to overpower and confuse sonar signals. They can be used above the surface but they are most effective underwater. Designs, power levels, and frequencies vary, but their functionality is essentially the same. Sophisticated confounders can broadcast in specific frequencies and most target navigational and echolocation ranges. Home-made confounders, like those used by insurgents and other hostile native groups, typically blanket the entire range of audible and hypersonic sounds.

Most confounders are effective to a range of 500 meters, but more powerful units can disrupt sonar

reception to a range of 1 kilometer. Some designs are made to float at the surface, others are suspended by lines from surface vessels or the seafloor, and still others sit on the bottom. Confounders give a –5 penalty to all sonar or echolocation dependent actions within their effective range.

Dimensions: 0.5–3 kilograms

Power Source: Standard cell

Rigging Value: Standard

Durability: 0

Legality: Restricted

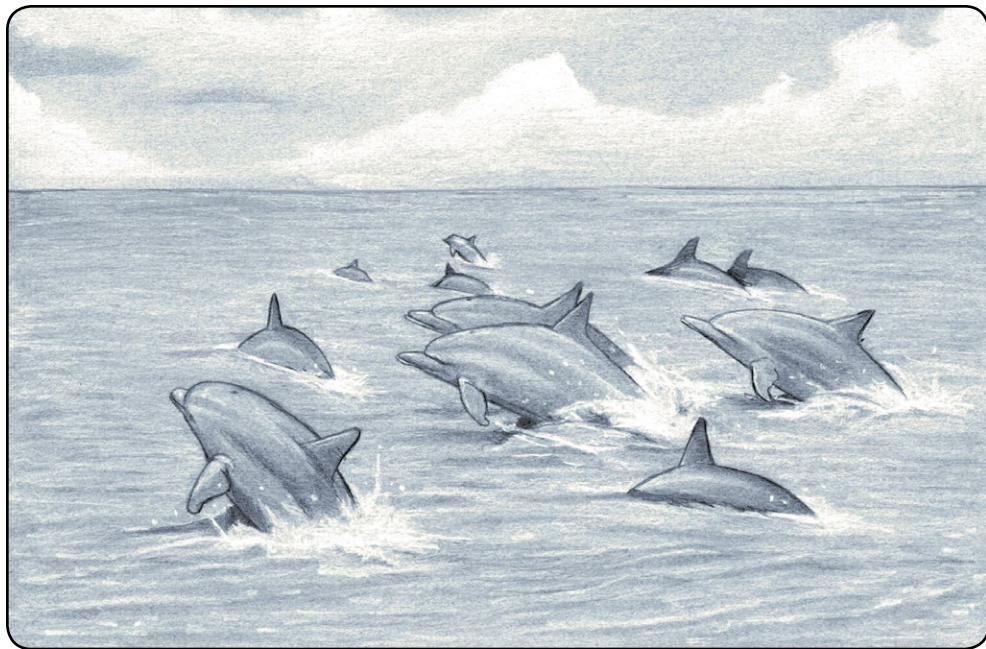
Availability: Uncommon

Cost: 35–340 cs

UV PAINT

Because whales evolved under a protective layer of water, cetacean skin is prone to severe sunburn. As a result, and as unlikely as it may seem, UV protection has become a necessity for cetaceans that have jobs or participate in activities that keep them at the surface for long periods. Cetaceans that spend more than a few minutes each day with their heads above the water and exposed to direct sunlight often wear waterproof sunblock sprays specifically formulated for cetacean skin. Although there are a few brands that are transparent, the most popular sprays come in garish colors. Users paint their heads with unique color and pattern combinations, seeming to revel in the ability this simple technology affords them to express their individuality. This behavior likely taps the same drive that motivates cetaceans to decorate their remotes with such arguable flare. UV paint has become more popular among whales for this reason than for its practical intent. In fact, many cetaceans regularly use UV paint all over their bodies to create colors, patterns, and even words and images that accentuate their individuality.

Oddly enough, these expressive individuals frequently change the colors and patterns they use, robbing the practice of its potential value in aiding humans in distinguishing between individual cetaceans. Belugas, with their white skin and artistic sensibilities, are the most flamboyant body painters, whereas pilots and orcas, with their darker colors and practical mindsets, are the least likely to paint themselves. In fact, most native cetacean species seem convinced that the sprays add to their scent spore, increasing the likelihood of attracting predators. Most natives also seem to lack the same cultural need for individuality as newcomers and, if inclined to dec-



orate their bodies, settle for traditional tattooing and ritual scarring. Many brands have begun including skin conditioners and anti-parasite additives in their sprays, increasing their practical value. UV paints come in small canisters that are easily handled by most remote manipulators and are good for three to eight full-body applications depending upon the species' size.

Dimensions: 0.3 kilograms
Power Source: Pressurized propellant
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 25 cs

ALL-CETACEAN CAMPAIGNS

Cetaceans are more at home in the oceans of Poseidon than any other species, even aquaforms. They are uniquely suited to tasks that must be performed under the surface, telepresence allows them to function as extensions of themselves on dry land, and even different species of cetaceans will come together as podmates. These facts make all-cetacean campaigns entirely within the realm of possibility.

CENTRAL THEMES OF ALL-CETE CAMPAIGNS

The Pod

The pod is more than mere family, it is central to everything that cetaceans do. In an all-cete campaign all the characters will probably be a single pod.

If they are forming a new pod then the meeting and pod forming process will be a crucial part of the campaign. These relationships are very important, more so than in an all human campaign

Existing pods will have very strong ties to one other. Though there may be arguments and disagreements, everyone in the pod knows that the pod's decision is final. It is extremely rare for a pod member to put their interest ahead of the pod. Leaving or being forced to leave the pod is a major event akin to losing a loved one.

Once the pod concept is decided upon, each player can create his character with skill sets that will benefit the pod and complement the other characters. Some examples of cetacean campaigns are given in the next section.

Hunting

All cetes are hunters and the quest for food is an important part of the daily routine. For many cetes the capturing of food is as important as the food itself. Any all cete campaign should have an element of hunting as part of the story.

Telepresence

All modern cetes are comfortable with telepresence, and don't view being in the water as a limitation. They are also comfortable with the dual reality of controlling themselves and their remotes at the same time. This dual reality is an accepted part of normal life for modern cetes.

EXAMPLES OF ALL-CETE CAMPAIGNS

Explore Our World

This campaign centers around a pod which is tasked to explore Poseidon. The pod could be recruited by the GEO to fully survey the planet, hired by an Incorporate to find likely Long John sites, or motivated by the Whalesong Theogony or personal beliefs to fully understand the planet by traveling around it.

Roles in the Pod

Commons: With their small size and superior speed and maneuverability, commons make great advance scouts.

Bottlenoses: Fins can take on Science and Survival roles and can handle Combat duties, thanks to their highly organized brains.

Belugas: Their communication abilities and natural inclination to be on the move make them natural for contact with other sentients and exploration in general.

Pilots: The ability to dive deeper and stay down longer serves them well in exploratory roles. They can also carry a larger load of necessary supplies and equipment.

Orcas: The combat heavies of any cetacean group, properly outfitted orcas are deadly at close and long ranges.

The exploration pod, based on its origin, could be equipped with state of the art gear or be entirely without modern equipment, relying on their instinct and abilities to succeed. Well-equipped groups could have weapon and gear harnesses, CICADAs or other remotes with survey gear and satellite communications, and MHD come-alongs to carry extra gear and

spare parts. Spartan pods could be virtually naked, with only fin blades and teeth for protection and their own memory to record what they find. Regardless, the exploration pod is bound to journey where no cete has gone before.

Protect Our New Home

This campaign is based on a pod that came to Poseidon after Recontact. The pod is either part of the GEO or freelancers recruited by them to protect the citizens of Poseidon from insurgents and ecoterrorists. While this may initially seem like a combat heavy campaign, in reality there are many non-combat missions such a pod could undertake.

The pod members could investigate hideouts and hangouts of suspected insurgents. These can vary from cete water bars, to abandoned warehouses, and even underwater cave systems. They could follow suspects and record their activities. This can be done personally or with surveillance remotes. They may become involved in the politics of the insurgency or ecoterrorism. They could set up sting operations to trick terrorists into exposing themselves or their cells, or go undercover and join an insurgent or terrorist cell, either to expose them or gain information about the leadership of the organization. They may be asked to perform guard duties at public appearances of people who are likely targets of terrorists.

Roles in the Pod

Commons: With their dislike of schedules and regulated tasks, commons do well in free-form activities like scouting and reconnaissance.

Bottlenoses: They do well in many roles, although Science and Tech usually appeal to their intelligence and curiosity. They excel in combat roles that call for rapid, coordinated strikes.

Belugas: Their communication skills and ability to empathize with different viewpoints allow them to gain information easier than most.

Pilots: Pilots dislike the violence of combat. However they perform well in support roles such as Tech and logistics.

Orcas: Not surprisingly, they tend to gravitate to combat roles. They can be more subtle with tactics than others give them credit for, which can surprise their opponents in a battle.

This campaign has the potential to bring many of Poseidon's political and social issues directly into game play. The characters may be faced with situa-

tions they never imagined the GEO would condone, or at least turn a blind eye to. They could be forced to make choices that go against their personal ethics or risk disobeying the orders that put them in that situation. There is a lot of room for both action and human/cetacean drama.

Defend Our Way Of Life

This campaign is the opposite of the previous; characters are part of an insurgent or ecoterrorist movement. These characters are natives or post-Recontact sympathizers who are actively warring against Incorporates, the GEO or almost everyone who has arrived after Recontact. Characters will be supportive of the native viewpoint and their desire to be left alone by governments and Incorporates alike. They will be unified in their support, but may not always agree on specific methods or actions.

Roles in the Pod

Commons: Their reputation for being flighty can lead to humans and other cetes ignoring them. This makes them well suited to the role of surveillance, since they can hide in plain sight.

Bottlenoses: Fins in these pods often take on the task of acquiring resources for the pod or the greater organization, in addition to acting in direct combat roles.

Belugas: Bels frequently become orators, espousing their cause to any who will listen and seeking support from sympathetic ears.

Pilots: They usually function in a support role, such as resource management, transportation and logistics.

Orcas: Again, they tend to gravitate to the heaviest combat roles, often times in the position of leader.

This campaign showcases either the native viewpoint, protecting their way of life from outside influence, or the ecoterrorist view of protecting the planet from those who would despoil it and those who protect the despoilers.

Strike It Rich

This campaign is about a pod of cetaceans looking to secure their fortune on Poseidon. It could be prospecting for Long John, trying to capture an Aborigine for study, or discovering the newest pharmaceutical.

The roles taken by the characters are as varied as the themes this campaign can take. The roles taken should reflect the mindset of the cetacean species, as detailed in **Chapter 2: Biology**.

This campaign can feature exploration, encounters with hostile native life, entanglements with Incorporates over their claims, run-ins with ecoterrorists, or just about anything you can imagine. For characters out to make a fortune, you can certainly expect a lot of morally gray situations to arise.

Discover The Truth

This is a very high-minded campaign, that focuses on a pod out to discover the truth of Long John, the Aborigines, and even the existence of the planet itself. The characters in the pod can't quite believe the miracle of a stable wormhole, leading to a system with a world almost perfectly suited to human and cetacean life. There has to be more to it, and these characters are going to find out no matter the consequences. Think of it as a BLUE PLANET version of the X-Files™.

Roles in the Pod

Commons: Commons do well with exploration and field research.

Bottlenoses: Fins will often be the scientists or technicians of the pod.

Belugas: Bels take on the duties of information gathering through conversations and interviews.

Pilots: Pilots often do the grunt work, although they also have good communication skills.

Orcas: Orcas would be the muscle for when things get rough.

This campaign would have a little bit of everything. Exploration, investigation, pumping government or Incorporate sources for information, hacking computer systems for evidence, tracking down stories in the field to verify them, and much more.

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WELCOME TO ANCIENT ECHOES

When Dr. Marcus Gottfried genlifted five bottlenose dolphins to human-level intelligence in 2042, he changed the world forever. For the first time, humans found themselves sharing their planet with another sentient species. Since that time, genlifted bottlenoses—and the other species that joined them—have become influential citizens of both Earth and Poseidon. From Hydrospace to the Athena Project, genlifted cetaceans have come into their own, and play prominent roles in all aspects of modern society and civilization.



This sourcebook gives players and Game Masters the resources they need to integrate cetacean characters into their BLUE PLANET games.

- Detailed descriptions of cetacean biology, psychology, and culture.
- New cetacean species: common dolphins, belugas, and pilot whales.
- Information on cetacean society on Poseidon, including details on Hydrospace and New Fremantle.
- Rules for cetacean characters, telepresence, and a new remote construction system, plus guidelines for running all-cete campaigns.

Requires use of the BLUE PLANET REVISED *Player's Guide*™.

