PYRAMID

Issue 3/24 October '10

BIO-TECH

BIOMECHA
by David L. Pulver

MARTIAN TECH
by Ken Spencer

THE CHILDREN OF INZANAMI
by J. Edward Tremlett

TERRA INCOGNITA:
ADLEMAN BANK
by C.J. Miozzi

BETTER LIVING THROUGH PHARMACEUTICALS
by Steven Marsh

STEVE JACKSON GAMES

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Contents

PYRAMID

Article Colors

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

Pale Blue: In This Issue
Brown: In Every Issue (letters, humor, editorial, etc.)
Dark Blue: ***GURPS*** Features
Purple: Other Features

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In This Issue

What could be more perfect than tailor-made body parts? The *Bio-Tech* issue of *Pyramid,* of course!

David Pulver, co-author of ***GURPS Bio-Tech,*** explores *Biomecha* – the ultimate in organic weaponry. These impossible constructs can be part of a setting or the focal point of a universe. With new templates, abilities, and campaign seeds, you'll be eager to get your very own biomech.

Some homes and equipment take a while to grow on you – sometimes literally! Such is the case with *Martian Tech,* the in-demand gear from the next world over. It's designed for the Roma Universalis alternate Earth (first seen in *Pyramid #3/20: Infinite Worlds*), but it's useful for anyone needing exotic animate tech.

What happens when the villain's lair *is* the villain? Will the living, breathing building that is *Terra Incognita: Adleman Bank* be able to recover from his psychosis before he really hurts someone?

Since humanity first chewed on bark to feel better, drugs have helped humanity easily overcome many disadvantages. But as everyone knows, even the best drugs can sometimes present their *own* challenges. *Better Living Through Pharmaceuticals* offers 10 new bio-tech chemicals that can change your life – sometimes in unexpected ways!

When bioengineering gets out of control, it can populate a universe with all kinds of strange creatures that no one would ever realize were once human. *The Children of Inzanami* are varied and scattered among the stars. This campaign background offers an excellent way to explain the existence of seemingly nonhuman races in a futuristic setting.

For a means of keeping track of bodily modifications (as well as cybernetics, fantasy accessories, and more), print out the *Biomod Location Sheet.* This sheet includes your choice of three different images on the front and easy-to-access canonical ***GURPS*** information about hit locations on the back.

Get some tips for getting rid of organic tech in *Odds and Ends,* celebrate life with the whimsy of *Murphy's Rules,* and ponder the ickiness of bio-technology with *Pyramid* editor Steven Marsh in *Random Thought Table.*

Most organic entities are more than the sum of their parts – and the same goes for *Pyramid.* Celebrate life!

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From the Editor

This Is the First Page of the Rest of Your Life

"Bio-tech" – it's a big topic! In fact, it was big enough to fill its own ***GURPS*** hardcover – and given the diversity of the topic, it's no surprise that we could fill an issue.

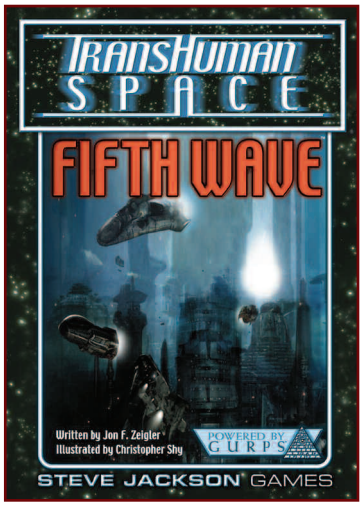
For the most part, the bio-tech articles we received and worked on were firmly on the "bigger" side of this big topic. Home-grown mecha, extruded Martian homes, new species, a bank that takes "work where you live" to a new extreme – these are all fairly over-the-top ideas. And it's the over-the-top aspect of bio-tech – the pulsing, ichor-dripping, squishy bits – that was at the forefront of the brain during this month's *Random Thought Table* (pp. 37-38). Even the "quietest" article this month – the new drugs presented on pp. 28-31 – tends to be more "over the top" than many pharmaceuticals presented in ***GURPS Bio-Tech.***

Some of this might be due to the nature of *Pyramid*. Most of the simpler, "sedate" (but important) corners of rules and information tend to be taken up by core rules and larger supplements – or even not-so-large supplements, such as those found at e23. It's easier and less risky to be "wild and crazy" in a six-page article than it is in a 32-page supplement.

Or perhaps the frenetic nature of this month's articles are like life itself – always pushing the envelope, always trying out something new. In that way, *Pyramid* is like a Petri dish for new and strange ideas.

Life? Don't Talk to Me About Life

Of course, like any scientific experiment, we need to know how these new and strange ideas worked. Is there something we did this issue that you want us to do more of? Was there anything that should be put in the bio-recycling bin, never to be spoken of again? We'd love to hear from you. Send us a note at **pyramid@sjgames.com,** or visit our virtual gathering at **forums.sjgames.com**.



Additional Material: Steve Jackson, David Pulver, and Sean Punch.

Biomecha

by David L. Pulver

"Let Taro go," Misa Ishino shouted. The two thugs were holding her friend, blood dripping from his broken nose. "He doesn't know anything."

"And you do?" The first thug demanded. He glared at the small school girl who was facing them, breathing hard from the exertion of having run to save her friend. Not that it would do her any good. No witnesses, the Boss had said. Make them talk, then bring back the starfish-thing. The Mega-whatever. But just ***don't*** *take it out of its container. "You found it?"*

"Not exactly," Misa said. She looked a lot more confident than any 14-year-old girl should when she was facing three hulking Yakuza gangsters. "It found me." She licked her lips. "I think it's hungry now . . ."

That damn kid was trying to psych him. He shook his head to clear it, then pasted on an evil smirk. "Okay, brat, you asked for it." He drew a long knife. "First, we'll play with you a little bit. Soon you'll be begging to tell us where you stashed the gizmo." He gestured for his two henchmen to drop her half-conscious boyfriend and get ready to circle her when she tried to run.

Misa didn't run. She had found the pod that the company's men were looking for. And she had opened it. And . . . Oh, this was going to hurt! (But somehow her body seemed to regenerate afterward).

"Megara Change!" she shouted.

For a moment, the advancing thugs could only stare in shock, as something seemed to move under Misa's blouse. Then the flesh on her legs and arms began to bubble, followed by her face . . . one eye popped out . . . Suddenly, there was an explosion of gore and viscera.

And standing in front of them was an armored, alien humanoid, with silvery-blue, lightly scaled skin and sculpted ribs. A long demonic tail. Curving horns. Steam hissed from vents on its back.

"Yes," it hissed. "Let's play."

Biomecha are living symbiotic battle armor. Essentially a small biovehicle (***GURPS Bio-Tech,*** p. 96), the disturbing intimacy of wearing a living creature also makes them a potent symbol of body horror. Indeed, most biomechs physically interface with their user's body, creating a relationship that is more like that of a parasite or symbiotic and its host, and which sometimes has long-term effects on the operator's metabolism. Many biomecha designs are thematically influenced by H.P. Lovecraft and the alien biomechanical designs of H.R. Giger, while being directly inspired by Japanese live-action-hero, manga, and anime series. Notable examples of these include *The Guyver, Iczer One, Xam'd Lost Memories, Genocyber,* and – for larger piloted designs – *Aura Battler Dunbine, Brainpowerd,* and *Neon Genesis Evangelion*. Many computer, video, and roleplaying games also have characters or foes that utilize biomecha-like weapons.

Biomecha Origins

The GM should decide how any biomecha were created. There are several possibilities; often, more than one may apply at once.

Human Bio-Technology: The biomecha was developed in a lab, usually in growth tanks (***GURPS Bio-Tech,*** p. 20-22). While some biomecha may be grown or bred, others are often assembled via biofabs using tissue-engineering techniques such as the biogenesis or neogenesis process (***GURPS Bio-Tech,*** p. 26). Biomecha designs could also use steampunk-era methods, such as grafting tissues from various animals and humans together in Frankenstein's monster fashion.

Nonhuman Origin: The biomecha is an alien construct, either a natural creature or a product of alien bio-technology. "Alien" may refer to extraterrestrials, fantasy races sharing the planet with humans (such as a setting where elves are masters of magical bio-technology), or even advanced AI that are dabbling in genetics. Alien biomecha may be limited to their nonhuman creators, or they might be acquirable by humans. They could be salvaged from a crashed UFO, received as gifts, or even purchased as trade goods (often with whatever adaptations are needed to make them human-compatible). Alien biomecha are sometimes manufactured from flesh or protoplasm with very different properties from any terrestrial tissue (despite somehow having the ability to interface with humans), giving them super durability, regenerative properties, or the ability to store vast amounts of energy in their cells. Some examples of alternate bio-technology are covered under *Different Biologies* (***GURPS Bio-Tech,*** p. 35).

Natural Symbiotic Organism: The biomech is a natural creature that didn't require any genetic engineering or surgical modification to create. It just happens to possess an innate ability to interface with or be piloted by other entities. A common variation on this is the natural symbiotic organism that only seems to be a wild animal but was in fact actually the product of genetic engineering many generations ago, having successfully thrived and reproduced. See the note on *Self-Replicating Biomechs* (p. 10).

Adventure idea: The good news is that the hero's biomecha has formed a deep and loving bond with him. Bad news? These emotions have made it jealous; if the hero dons another biomecha unit, his loving vessel could go berserk.

Hybrid Technology: The biomecha may be alien technology but requires additional modification by human scientists to enable humans to safely interface with or control it. This may involve grafting in nonbiological components – such as pods, control units, or neural interfaces – or chimerazation (see ***GURPS Bio-Tech,*** p. 38) of alien organism with terrestrial tissue. Alternatively, the alien biomecha may be unchanged, but the hybridization process may involve modifying the would-be pilots by inserting alien biomods or xeno-grafts. It's also possible that alien hybrid parahumans (see ***GURPS Bio-Tech,*** p. 38) may need to be created via genetic engineering. Such a hybrid might be an obvious variant human, or could appear externally human, and may not even realize (or be told) that they have a genetic kinship toward the biomecha.

Paranormal Origins: Biomecha designs are typically superscience, and a fantastic origin is just one step beyond that! Biomecha could be the result of attempting to clone or synthesize tissues salvaged from supernatural entities such as werecreatures, vampires, demons, or angels. Or, a sufficiently advanced bio-technology may really be truly indistinguishable from magic: Biomecha may be the product of magical bio-tech (***GURPS Bio-Tech***, p. 30), most likely using some variation of a Create Chimera or Manipulate DNA spell.

Biomecha research and development can be a dangerous process. Projects are often punctuated by incidents of the biomechs going out of control, or of the symbiots injuring, driving mad, or mutating the pilots or hosts who work with them.

Biomech and Owner

As a biomecha is a living machine, it's often appropriate to create it as an Ally. Some biomecha may be fully sapient partners, but most are not – these should have the Minion modifier (usually at +0%). Unless the biomecha needs a lot of maintenance or is otherwise often unavailable, Constantly (×4) is the usual frequency of appearance. In some campaigns, a biomecha may additionally count as an Ally with Special Abilities (+50%), but if exotic abilities are commonly available from biotech, cybernetics, etc., that's not the case. When applicable, those with multiple biomechs should have Ally for each one.

There are two main possibilities for how human operators control living biomechs.

Manual Controls

If the biomecha is large enough for a cockpit to be installed, the operator may use manual controls and displays. These could be conventional mechanical or electronic panels implanted in the biomecha and cybernetically spliced into its nervous system. Alternatively, the manual controls could be an organic part of the creature, such as fleshy knobs, dangling nerve fibers that the operator must manipulate, or particular sounds or smells he must interpret, possibly augmented by specialized bio-gadgets or implants that can serve as periscopes or view ports for its internal crew. If the biomech is a form-fitting battlesuit (typically the same SM as the wearer, or one SM larger), the wearer is usually tightly integrated with the suit, and the controls are negative-feedback and amplification-based. That is, the wearer will try to move a limb, and the biomecha organism will sense that pressure and move its own limb. The biomecha may have been engineered or cybernetically modified to provide these responses, or it may need to be trained to do so.

Usually the cockpit is a very tight fit. If the controls are completely neural, the user may not even be able to freely move. Access may be via a surgically implanted portal (hatch, entry pod, etc.) or squeezing through a biological sphincter or into a marsupial-like pouch. Biomecha of this sort are designed with the advantages Compartmentalized Mind (Controls) and Payload. Life support may be provided by mechanical implants or a byproduct of the biomecha's metabolism. Sometimes, this involves tubes and organs of the creature connecting directly to the operator's body, or immersing him in a fluid derived from the creature's oxygenated blood (much like the liquid-breathing apparatus used by some deep-sea divers).

Interface Controls

Interface controls symbiotically connect the operator and the biomecha. They may be an electronic system (such as a neural-interface helmet or headband that is connected via cable or radio to implants in the biomecha). Just as often, they're some form of direct biological symbiosis. For example, the biomech may possess internal tendrils that penetrate the operator's body and connect with his nervous system. Sometimes the operator is also immersed in a fluid that assists with transmitting these signals, as well as providing life support.

To simulate the ability to interface with the battlesuit, the wearer needs the following advantages (in addition to Ally):

Symbiotic Bond with Biomecha: Puppet [5] + Possession (Assimilation +10%; Parasitic; -60%; Puppet Only, -30%) [20]. *25 points.*

As a 0-point feature, the wearer may use Possession (Parasitic) even if he is the same SM as the biomech, provided that the rules for form-fitting mecha (see *Suits vs. Vehicles;* see p. 6) are observed.

If the user can control more than one different biomecha, use the 10-point version of Puppet. If the interface is reliant on gadgetry, such as a helmet, buy this with Gadget limitations (or money; see ***GURPS Ultra-Tech*** for statistics of various technological neural interfaces). Otherwise, a symbiotic bond can represent one of the following:

The introduction of biomechs are a good way to add variety to a campaign. Imagine a paranormal investigation setting where the heroes get to ramp up the offense with some new squishy tech!

- Necessary training (or a natural talent) at interpreting the alien neural signals sent through a particular biomecha's natural interface.
- Imprinting of the biomecha entity (like a chick on its mother), perhaps immediately after it was born or hatched out of an egg, or crawled from its growth tank, so that only someone who it is imprinted on can bond with it, sharing some form of empathic link.
- A specialized genetic modification or racial or hereditary ability to control the biomecha. In some settings, this might even be limited to particular families or bloodlines ("only a son or daughter of the House of Zeros can bond with the Imperial biomecha").
- Infestation with a biomod or a symbiotic parasite (see ***GURPS Bio-Tech,*** p. 94) that lives inside the character, serving as an anchor for the summoning or growth of the rest of the biomecha. See *Parasitic Invasion and Summonable Biomecha* (below).

Suits vs. Vehicles

The interior space inside a biomecha is represented using the Payload advantage. However, the relative size of the biomecha compared to its occupant(s) determines whether to classify it as a vehicle or a suit.

- A biomecha that is two or more SM larger is generally considered to be a form of biovehicle. If the Payload is great enough, it may even have room for multiple occupants. There may be an actual cockpit, whether the vehicle uses interface or manual controls.
- A biomecha that is the same SM or one larger than its operator is generally considered to be a form-fitting battlesuit. It should be approximately the same shape as the wearer, although since the biomecha is itself alive, its nervous system can often control any extra arms, wings, tail, etc. that the user lacks.

GMs should consider using the damage rules detailed under Possession (Parasitic) (p. B76) regardless of whether the vehicle has interface or manual controls. That is, any attack that penetrates or ignores the biomech's DR can injure the occupants, but the biomech's HP act as extra DR for this purpose. However, if the biomecha is form-fitting (same SM or one higher), then it may be realistic to assume that the biomecha's HP do not protect the wearer.

Parasitic Invasion and Summonable Biomech

This is a particularly exotic form of symbiotic bond with a biomecha. Common in cinematic body horror-inspired bio-tech settings, a parasitic symbiotic organism takes up residence inside the person's body and serves as a living portal or anchor for an even larger extradimensional organism: a summonable biomecha, which can periodically be called forth to materialize around the host. From an external perspective, it may appear that the host transformed into the biomecha. Alternatively, the biomecha's tissue manifests as emerging from the host's flesh or bodily orifices, and forming round him. Occasionally, the biomecha can only be maintained for a limited period. If the biomecha is vehicular rather than suit-sized, the biomecha will usually just appear with the operator already interfaced inside it, enmeshed in interface tendrils or floating naked in liquid-filled chamber.

To buy this capability for someone, take the Symbiotic Bond with Biomecha ability (see p. 5) along with Ally. Give the Ally the Summonable enhancement, and other limitations like Costs Fatigue, Emergencies Only, or Trigger, as appropriate.

There are a few different ways someone could gan a summonable biomech. Sometimes, the person chooses to become a host, such as a through a family ritual or by being a member of an elite agency. In bio-tech horror settings, this is often involuntary!

Usually the parasitic entity is in a dormant or larva state, often as some sort of pod (typically about the size of a human head), slime, monstrous plant, or weird creature. It may be found in the wild, as a newly created lab specimen, or sealed in a package. Upon being touched by bare flesh the parasite, essentially a larval form of a biomecha, suddenly comes to life and often attempts to physically merge with its unwary host. This is typically depicted as a process involving an eruption of striking tentacles, stingers, ovioposter, or pseudo-pods and sometimes bodily invasion, with part or all of it vanishing into the subject's body.

A less invasive approach may be possible if the symbiosis is performed in a controlled environment. In this case, the subject may simply be injected with or given a pill containing the symbiont eggs, or possibly lowered into a growth tank filled with a nanomachine fluid or metamorphosis virus that has the same transformational effect.

Either way, once the parasite is inside, it begins to spread and grow, permeating the host's nervous system; surgery may or may not be able to safely remove it. However, while its initial behavior may suggests that the victim is doomed to be eaten alive by some parasitic monster growing inside his stomach, instead, it's a biomecha symbiont. After a period of time (which may range from minutes to weeks depending on the degree of superscience involved), the symbiont is fully grown. Usually, the first appearance of the biomecha transformation will be involuntary, triggered by stress such as an attack on the host or one of his friends, or some other life-threatening event. However, the host may eventually learn how to control the transformation.

If someone has a summonable biomecha bonded to him, what happens if he dies while in human form? It's possible that nothing will happen; this may sever the bond with the biomech. However, some other, more horrific possibilities could instead occur:

Biomecha can be introduced for a limited number of adventures by predetermining an in-game justification for getting rid of them. ("Oh, no! Our xenoarmor is dead!") See p. 39 for ideas.

Russian Doll Monster: The corpse may transform one last time, but this time, the PC isn't in command of the monstrous biomecha form. Instead, it's an NPC, often with a Bestial, predatory nature, who is likely to attack friend or foe. The GM should use Alternate Form's statistics as a racial template to create the monstrous character.

Back From the Dead: The biomecha might be able to use its regenerative abilities to resurrect the host's body. This is an advantage, such as Extra Life.

Care and Feeding of Biomecha

A biomech is a living organism or, sometimes, a collection of several organisms working in symbiosis. It does not have the Machine metatrait. As such, it's vulnerable to radiation and to metabolic hazards such as poison or disease, which may be very effective weapons against biomecha. Although most biomecha have bodies that incorporate filters or seals against gas, they are still vulnerable to injected toxins that get past their DR. Another possible vector for contamination is the occupant himself, especially if he is symbiotically linked to the biomecha. However, like many bioroids and genetic upgrades, biomecha are usually engineered to be resistant to normal diseases, so only especially virulent pathogens (or ones specially designed to target them) are likely to be threats. Thus, a biomecha is unlikely to sicken because its pilot has the flu.

Due to the intimate connection between the biomech and its host, if the biomech is exposed to a poison or disease, the host may also be exposed, and vice versa. However, due to their physiology differences, either should resist any disease that the other is exposed to at a +5 to HT.

A primary advantage of biogadgets is their self-healing capability. Biomecha usually go one step further and are engineered with rapid regenerative abilities. Even so, sometimes medical treatment will be necessary. A biomech normally has a very different physiology than a human (see Physiology modifiers, p. B181) and counts as an *utterly alien species* (-5 to skill).

Unless otherwise noted, biomecha have bioreactors that allow them to eat. Some models require exotic nutrients, though most designs are intended to live off whatever organic material is available. Other possibilities (if they have Doesn't Eat or Drink) include solar power, biological fuel cells, natural electrical batteries, or exotic extradimensional, mana, or bio-energy engines.

Guyver: The aliens created the Guyvers to fight their wars for them. The humans rebelled. Out of control. The Guyver is nothing more than a weapon.

– Guyver: Dark Hero

Sample Biomecha Ally Templates

A few examples of biomechs are presented below, which GMs can use as templates for creating further designs. The names can be modified to suit particular campaigns.

As biomecha are alive, they can evolve and grow. This might represent the biomecha learning along with its pilot, or it could represent a gradual metamorphosis toward its "ultimate state." Either way, the GM may allow those with biomechs to spend character points on improving the biomecha's various traits, even if the mecha is simply something that the hero wears like armor rather than an implanted symbiont.

Cost

A typical cost for biomecha (if commercially available) is $50,000 plus $1,000 per character point. Rare or unique designs (e.g., experimental or alien technology) may be several times more expensive or priceless.

Alastor

605 points

The Alastor is an combat-infantry suit-type biomecha designed for commando and special operations missions. It is a high-powered military Airborne Ranger design, utilizing exotic hyper-resilin muscles (based on insect proteins) that are strong enough to punch through a half-inch of steel plate (ST 90) and tough enough to resist 7.62mm rifle bullets. It has a round, nearly featureless head with a thin red strip for its optic sensors and a circular lamprey-style mouth that can suck blood out of its prey. A pair of natural radio antenna extend out from its head. Its dark green skin is covered by thick chitin-like armor plates of military-grade bioplas, whose composite construction also provides some radar stealth. Its arms end in tentacle-like fingers.

*For details on creating large, inorganic mecha as spaceships instead of Allies – plus some sample giant robots – flip through **GURPS Spaceships 4: Fighters, Carriers, and Mecha** (also by David Pulver).*

It can also spray spider-like webbing from two spinnerets on its neck glands, usually to secure prisoners. It often carries standard military heavy infantry weapons and typically has implanted cybernetics as well. Its membranous folding wings, concealed in a hump in its back, are not powerful enough to allow it to fly, but it can use them to make glider insertion drops from high altitude, or escape by leaping off tall buildings into the air.

Attribute Modifiers: ST+30 (Size, -10%) [270]; DX+2 [40]; IQ-9 [-180]; HT+2 [20]
Secondary Characteristic Modifiers: Per+3 [15]; SM +1.
Advantages: Binding 15 [30]; Chameleon 2 (Extended, Infravision and Radar, +20%) [12]; DR 40 (Can't Wear Armor, -40%; Flexible, -20%) [80]; Enhanced Move 1.5 (Ground) [30]; Filter Lungs [5]; Flight (Controlled Gliding, -45%; Winged; -25%; Switchable, +10%) [16]; Infravision [10]; Less Sleep 4 [8]; Night Vision 7 [7]; Nictitating Membrane 8 [8]; Peripheral Vision [15]; Protected Hearing [5]; Protected Vision [5]; Reduced Consumption 2 [4]; Regeneration (Regular) [25]; Resistant to Acceleration (+3) [1]; Radio [10]; Resistant to Disease +8 [5]; Striking ST 50 (Size, -10%) [225]; Super Jump 1 [10]; Temperature Tolerance 4 [4]; Vampiric Bite (2 HP/second) [35].
Disadvantages: Appearance (Monstrous) [-20]; Dead Broke [-25]; Reprogrammable [-10]; Restricted Diet (Fresh Blood or Nutrient Fluid) [-10]; Self-Destruct [-10]; Short Lifespan 1 [-10]; Social Stigma (Subjugated) [-20]; Unusual Biochemistry [-5].
Features: Sterile [0]; Tail [0].
Availability: $605,000. LC2.

Variant

The standard design is an interface-type biomecha. To make it a manual-control design add the following:

Manual Control (32 points): Compartmentalized Mind (Controls) [25]; Payload 7 [7]. If ST is unmodified from the ST 40 racial average, the biomecha's Payload can carry 224 lbs.

BRONTIDE

755 points

A laboratory prototype humanoid bio-weapon intended for a mass production as a light reconnaissance walking tank, the Brontide is a long-legged biomechanical giant standing 32' tall. It has an lean angular appearance with a wedge-shaped head, and two powerful arms with curving blades attached to them. The biomecha has a double row of long spines extending down its back, but these are intended more as heat radiators rather defensive structures, although they perform double duty as both. The interior pilot pod is accessed through a (rather slimy) sphincter in the upper rear torso. The Brontide is powered by a powerful bioconversion engine that can eat just about anything biological.

Attribute Modifiers: ST+90 (Size, -40%) [540]; DX+1 [20]; IQ-9 [-180]; HT+2 [20].
Secondary Characteristic Modifiers: SM+4.
Advantages: Claws (Long Talons) [11]; Doesn't Breathe (Oxygen Storage, 50×, -40%) [12]; DR 50 (Can't Wear Armor, -40%) [150]; Enhanced Move 2 (Ground) [40]; Filter Lungs [5]; Infravision [10]; Night Vision 9 [9]; Nictitating Membrane 8 [8]; Protected Hearing [5]; Protected Vision [5]; Reduced Consumption 1 [2]; Regeneration (Regular) [25]; Resistant to Disease +8 [5]; Sealed [15]; Spines (Long Spines; Directional, From Rear Only, -50%) [2]; Striking ST 50 (Size, -40%) [150]; Super Jump 1 [10]; Temperature Tolerance 5 [5]; Universal Digestion [5].
Perks: Penetrating Voice [1].
Disadvantages: Appearance (Monstrous) [-20]; Dead Broke [-25]; Reprogrammable [-10]; Slave Mentality [-40]; Social Stigma (Subjugated) [-20]; Unusual Biochemistry [-5].
Features: Sterile [0].
Availability: $832,000. LC2.

Variant

The standard design is an interface-type biomecha. To make it a manual-control design add the following:

Manual Control (27 points): Compartmentalized Mind (Controls) [25]; Payload 2 [2]. If ST is unmodified from the ST 100 racial average, the biomecha's Payload can carry up to 400 lbs. (typically two occupants).

Mata Nui: This mask gave me new life.
– Bionicle: The Legend Reborn

MEGARA

321 points

This is an agile battlesuit-type biomecha. It resembles a biomechanical humanoid, with silvery-blue skin and sculpted, ribbed armor plate. It has a barbed tail and curving horns, but no obvious mouth; its power source may be solar or some form of cosmic energy. Although frightening, it is not entirely unattractive. The originals were discovered in a crater on the moon and brought back to Earth at Area 51, where it was successfully duplicated by a bio-defense contractor. It is capable of functioning as an environment suit and as a living weapon. This biomecha lacks the thick carapace of heavier designs, but its armor can still stop pistol bullets or sword strikes. It can't stand up to heavier biomechs in a head-to-head slugging match, but it can carry external weapons.

Just because this article presents a plethora of biomecha options, you don't need to use them all! An interesting campaign can be built around just one biomech design (or, perhaps, two – one for the heroes, and one for the adversaries).

Attribute Modifiers: ST+15 [150]; DX+3 [60]; IQ-9 [-180]; HT+2 [20].

Advantages: Claws (Sharp) (Switchable, +10%) [6]; Doesn't Breathe) [20]; Doesn't Eat or Drink [10]; DR 10 (Flexible, -20%) [40]; Enhanced Move 1.5 (Ground) [30]; Less Sleep 3 [6]; Nictitating Membrane 3 [3]; No Degeneration in Zero G [1]; Perfect Balance [15]; Protected Vision [5]; Reduced Consumption 2 [4]; Regeneration (Very Fast) [100]; Resistant to Acceleration (+3) [1]; Radio [10]; Resistant to Disease +8 [5]; Sealed [15]; Striker (Tail; Impaling; Clumsy, -2 to hit, -40%) [5]; Striking Strength 10 [50]; Super Jump 1 [10]; Temperature Tolerance 20 [20]; Ultravision [10]; Vacuum Support [5].

Disadvantages: Dead Broke [-25]; Reprogrammable [-10]; Slave Mentality [-40]; Social Stigma (Subjugated) [-20]; Unusual Biochemistry [-5].

Features: Sterile [0].

Availability: $320,000. LC2.

Variant

The standard design is an interface-type biomecha. To make it a manual-control design add the following:

Manual Controls (35 points): Compartmentalized Mind (Controls) [25]; Payload 10 [10]. If ST is unmodified from the ST 30 racial average, the biomecha's Payload can carry one occupant of up to 180 lbs. weight.

Other Advantages and Disadvantages

Nearly any physical advantage or disadvantage that would be appropriate for a living thing – human or alien – may also be appropriate for a biomecha. For nonsuperscience designs, the TL guidelines in ***GURPS Bio-Tech*** can be used. Many genetic modifications, biomods, or cybernetic implants could also be directed adapted as modifications for a biomech. For example, a biomech could have a Boosted Heart (***GURPS Bio-Tech,*** p. 174).

Here are a few exotic options that could be added to biomech designs. For many more possibilities, see ***GURPS Bio-Tech*** and ***GURPS Powers.***

Battle Jaw: Teeth (Fangs; Switchable, +10%) [2]. *Notes:* The biomech's mouth is a huge maw that can open like that of an egg-eating snake. *11 points.*

Bio-Laser: Burning Attack 8d (Accurate +4, +20%; Armor Divisor (2), +50%; Costs Fatigue, 5 FP, -25%; Increased 1/2D, ×20, +20%; Increased Max, ×10, +15%; Takes Recharge, five seconds, -15%; Temporary Disadvantage, Remove Nictitating Membrane, -8%) [63]. *Special Effects:* Loses damage in smoke; tight-beam burning damage; the FP must be spent at a rate of one per second while laser is charging, rather than at the moment of firing. *Notes:* This is a powerful laser beam generated through organic crystal lenses and bio-electricity. Using the laser requires first opening up a vulnerable "third eye" in the head. The Temporary Disadvantage limitation assumes Nictitating Membrane 8; for the Megara, this becomes -3%, raising the bio-laser's cost to 65 points. The bio-energy cells also need five seconds to charge up. *63 points.*

Cannibalistic Bite: Vampiric Bite 7 (Eats flesh rather than drinking blood, +0%) [60]. *Notes:* The biomecha has sharp teeth that tear its victims, and by eating their flesh, it consumes their bio-mass and uses it to restores its own body. This is a messier process than blood-drinking: Instead of draining 7 HP per turn, it inflicts 2d of injury. *60 points.*

Corrosive Enzymes: Corrosion Attack 3d (Cyclic, 10 seconds, 3 cycles, +100%; Increased Range, ×4, +40%; Jet, +0%; Limited Use, 10 uses, Slow Reload, -5%) [71]. *71 points.*

Decaying: Bad Smell [-10]; Slippery 1 [2]; Slow Healing 1 [-5]. *Notes:* The biomecha is rotting; perhaps it is rejecting some of the tissue grafts, cybernetic implants, or other processes that were used to create it. Remove any Regeneration the mecha has. *-13 points, plus points lost from Regeneration.*

> *Some people would say my paintings show a future world and maybe they do, but I paint from reality. I put several things and ideas together, and perhaps, when I have finished, it could show the future.*
>
> *– H.R. Giger*

External Plates: DR 5 [25]. *Notes:* The biomecha is covered with external plastic, metal, or composite armor plates that provide extra protection and make it look like a robot or suit of armor. If the biomecha had Monstrous Appearance, remove it; this adds 20 points to the cost of this option. *25 points (45 points if Monstrous).*

Impaling Horn: DR 2 (Skull Only, -70%) [3]; Striker (Impaling; Limited Arc, straight ahead, -40%; Long, +1 SM, maximum reach only, +75% [11]. *Notes:* A rhinoceros- or unicorn-like horn extends out of the biomech's forehead, surrounded by extra head armor. *14 points.*

Micronization Mode: Shrinking 8 (Temporary Disadvantage, Remove Compartmentalized Mind and/or Payload, Variable) [Variable]. *Notes:* The biomecha can shrink down to a compact portable form, usually reducing to around SM -3 (size of a cat or a backpack), but only when its occupant is not aboard. If the mecha is nonsapient, assume it can shrink or grow if its master touches it. This is obviously unnecessary for Metamorphosis-type mecha, but is useful for other types! Some sentient biomecha may resemble a toy or pet when shrunk. The Temporary Disadvantage is the removal of any Compartmentalized Mind or Payload advantages. *Variable cost.*

Suppressed Personality: The biomecha appears to be a docile creature with insect-level IQ and Slave Mentality.

By keeping the number of biomechs small in a campaign – at least at first – you can keep the setting from getting too crazy. In a low-powered biomecha campaign, it can be useful to alternate adventure adversaries (mecha enemy, mundane enemy, repeat).

Self-Replicating Biomechs

The default assumption is that biomechs are asexual and sterile. However, it may be possible to design biomechs that are neither. This has no point cost, but would usually be an extremely expensive design feature.

Gendered: Biomech's possess a gender (male, female, or both). Gendered biomechs can engage in intimate relations. The sex of a gendered biomechs may or may not be obvious; sometimes a biomech may have a slightly feminine or masculine facial and body shape. (Assume sexual organs are normally retracted or concealed behind armor flaps for both modesty and self-protection). A biomech's gender does not necessary have to be the same as its host, which could have interesting consequences.

Adaptive Gender: A biomech may be designed so that its gender conforms to its host. The biomech is normally asexual, but its gender (and possibly appearance) adjusts to match that of its host within 10 seconds of bonding. This is similar to Hermaphromorph advantage, but since the gender switch is not controllable, is a 0-point feature.

Fertile: Two biomechs of opposite gender who mate may produce offspring. This could be voluntary or random (e.g., roll 3d; on a 3-5, it occurs). A pregnant female biomech remains so for 12 months; in the final three months, the pregnant biomech's nutrient requirements double. Biomech pregnancy adds 0.2 lbs. of weight (as encumbrance) per month, which is not usually visible. Biomech pregnancy does not impair the biomech's operator, but he will usually be aware of changes within the biomech itself. Toward the end of the pregnancy, the operator (and observant viewers) may notice something unusual, such as a bump or tumor growing on the biomech. Biomech birth is a rapid process, and occurs any time that the unit is worn at the end of the development period; the process requires the cooperation of an operator. A biomech giving birth extrudes 1d/2 soft egg-like biomech units over that many hours. These harden over a month into a biomech capsule capable of bonding with a human. A biomech that is pregnant can't become pregnant again until at least six months after it has laid its last egg. *0 points.*

However, its own alien consciousness lurks under the surface, and may attempt to take control of the vehicle if the pilot is incapacitated or in stressful situations. Add the disadvantage Split Personality to its sheet, usually self-control roll of (12) or (15). Its normal personality includes the Reprogrammable Duty and Slave Mentality that are standard for a biomecha. Assign -50 points of mental disadvantages and/or quirks to replace these traits when the biomecha's Split Personality is triggered by stress. *Variable cost.*

Rejection Risk: Fragile (Explosive; Devoured instead of blowing up, +0%) [-15]. *Notes:* In any circumstances where the biomecha would explode (e.g., a critical failure on the HT roll for a major wound) but is not totally destroyed, its control mechanism instead fails catastrophically and it *eats its operator alive*. It inflicts its thrusting damage each second to whoever is inside it. The operator can try to force his way out or destroy the biomecha from within. If trying to force his way out, he must win a Quick Contest of ST with the biomecha.

Tentacle Explosion: Common in designs engineered from alien or demonic tissue, this allows the biomech to suddenly sprout four extra writhing tentacles from its body, giving the mecha eight limbs. This ability is mainly used for grappling. Extra Arms 4 (Extra-Flexible, +50%) [60]; Stretching 2 (Extra Arms Only, -20%) [10]. *70 points.*

Cybernetics

Biomecha will sometimes be implanted with cybernetics (see ***GURPS Ultra-Tech***) to give them abilities that are not biological. Aside from controls, two examples are:

Biomonitor: Accessory (Biomonitor) [1]. *Notes:* Allows a controlling organization to monitor the biomecha's vital signs for research or tracking purposes. Adds +2 to any First Aid, Diagnosis, or Physician rolls if the display data can be accessed. *1 point.*

Implanted Radio: Radio (Secure, +20%; Temporary Disadvantage, Electrical, -20%) [10]. *Notes:* 10 mile range. Also useful for remotely transmitting biomonitor data. *10 points.*

Side Effects

A human who has a symbiotic biomecha (see p. 6) bonded to him may gradually find his *own* body altering due to the alien presence within. The effect is often progressive over time and possibly even beneficial. For example, the person might gradually discover the biomecha is "improving" his body by removing disadvantages like Bad Sight (Nearsighted) or giving him advantages like Very Fit, Very Rapid Healing, or even Unaging. However, these may come with side effects, such as gaining minor Unnatural Features, Unusual Biochemistry, or worse.

Unlike a robot, a biomecha can continue to grow and evolve. The alien nature of many biomechs mean that it is perfectly reasonable for them to manifest new Exotic traits. This can even be explained as the biomecha gradually evolving toward its ultimate form.

Since a biomecha connects the user's body and mind with a nonhuman life form, there is always the possibility of contamination resulting in long-term damage. These could range from mundane effects (such as infections developing where a biomecha's interface penetrates the user's skin, or cumulative exposure to toxic or carcinogenic agents) to exotic possibilities (such as acquiring alien characteristics or becoming addicted to chemicals secreted by the suit). In game terms, the GM may wish to let pilots buy various disadvantages to help pay for the cost of the suit or upgrades.

Campaign idea: In a high-school campaign, the heroes find baby biomechs! Both mature, until the day they join together.

Biomech Campaigns

Biomechs could be used in any setting where sufficiently advanced bio-technology exists to support them.

The Biomech Next Door

The classic anime or comic-book story has a secret biomech weapon system accidentally falling into the hands of an ordinary person, such as a high-school student. (Maybe a plane carrying the prototype crashed near a school camping trip!) The sentient nature of a biomech makes it a weapon that could conceivably be used without any training. After inadvertently activating the device(s), the hero or heroes soon find themselves the target of a sinister cabal's agents, who are determined to both retrieve the prototype and eliminate all witnesses. Fortunately, the biomech they have is the most powerful design yet developed, giving the heroes the ability needed to fight back.

Black Ops

If biomech suits are rare or experimental technology, they're most likely to end up in the hands of secret agents, special ops teams, or assassins, or, in a supers game, individual heroes or villains. A typical biomech is several times stronger than an unmodified human, bulletproof, sealed, and equipped with keen sensors and sometimes built-in weaponry. A biomech's organic design is usually harder to detect than a conventional powered suit, making it innately stealthy. It may register on sensors as no different than a person or animal. Many biomech designs are capable of transforming themselves into a compact or innocuous shape or even folding into their host's bodies, allowing an ordinary person to rapidly "power up" into a superhuman armored form.

Bio-Troopers

Building the first living battlesuits may be a significant technological challenge, but once initial hurdles are overcome, it may be possible to clone, breed, or otherwise mass produce enough biomechs to outfit an army. Although a biomech suit is probably not as tough as an equivalent TL robot or powered armor design, it will likely have lower maintenance requirements, being able to regenerate itself and "live off the land." Biomechs might be particularly well-suited to guerrilla warfare or light infantry operations (such as reconnaissance, counter-insurgency, and raiding). Biomechs could be standard infantry armor, or issued only to special forces such as rangers or scouts.

Biomech Police

If crime is on the rise, all types of solutions may be tried to keep the mean streets safe. Cyborg cops, robot cops . . . even biomech suits. The sentient nature of some biomechs could see them treated as the equivalent of police dogs (or, if more intelligent than usual, as partners) rather than mere weapons or vehicles.

Biomech Criminals

If cops have biomechs, bad guys might have them as well. Biomechs make good weapons for elite supercriminal agencies, especially in a supers campaign. Alternatively, in an ultra-tech setting, ordinary Mafia, Triad, or Yakuza enforcers may be equipped with stolen or black-market biomechs instead of Uzis. A black clinic could even have a sideline growing or fitting biomechs for underworld and street samurai clients (and perhaps treating the various problems caused by out-of-control symbiosis). If biomechs are rare artifacts, they could be the signature weapons of a super mercenary or, given the horrific nature of some biomech designs, of an especially terrifying hit man.

About the Author

David L. Pulver is a Canadian freelance author. An avid SF fan, he began roleplaying in junior high with the newly released ***Basic Dungeons & Dragons.*** Upon graduating from university, he decided to become a game designer. Since then, David has written over 70 roleplaying game books, and he has worked as a staff writer, editor, and line developer for Steve Jackson Games and Guardians of Order. He is best known for creating ***Transhuman Space,*** co-authoring the ***Big Eyes, Small Mouth*** anime RPG, and writing countless ***GURPS*** books, including the ***GURPS Basic Set,*** *Fourth Edition,* ***GURPS Bio-Tech,*** and the recent ***GURPS Spaceships*** series.

Shinji Ikari: I can't pilot EVA if all I do is hurt and kill people. I thought I had no choice but to pilot EVA, but I was just lying to myself. I'm not worthy of piloting an EVA, because I don't understand anything.

– Neon Genesis Evangelion: The End of Evangelion

Martian Tech

by Ken Spencer

Strabo slipped quietly through the town house of Tullus Livius. The wealthy senator had left Rome for his country villa to escape the heat and discomfort of summer. Only a few trusted slaves and clients remained to watch the house. Trusted those men may be, but competent they were not, and now all in the house but Strabo snored away the effects of drugged wine. The haul would be rich tonight, possibly enough for the thief to leave the city and travel elsewhere a wealthy man.

> *Scavenger enzymes process the dust particles. It's old Martian biotech.*
>
> *– Alastair Reynolds,* ***Revelation Space***

As he stalked through the halls, Strabo became increasingly disappointed, for the old senator seemed to hold to ancient Roman views concerning the acquisition of luxuries. Either that or all the good stuff had gone north with the family. Entering yet another sparse room, Strabo spied a prize – a Martian table. The bone-colored, six-legged piece of furniture would fetch a high price, as such things were not terribly common on Earth, and were imported at great expense from the Empire's pan-solar colonies.

Before he could begin contemplating how he would get the three-foot diameter table out of the house, it moved. Six legs, looking all the world like polished bone or wood, flexed and skittered back, putting some distance between itself and Strabo. A long fleshy proboscis extended out from underneath and began snorting at the air.

"Easy boy," Strabo whispered, "Let's just go for a little walk, nice and easy."

The table didn't recognize the man's scent, his heat signature, or his voice. As Strabo moved closer to grab it, the table followed its programmed instincts, emitting a loud screeching noise and releasing a cloud of foul-smelling gas. When the startled thief tried to rudely grab it, the table responded by defending itself with its six stout legs and the feeding proboscis. The single needle-like tooth it employed to catch vermin was not strong enough to do more than prick the thief, nor was the table's venom potent enough to paralyze the man. But it did scare him and numb his hand, causing Strabo to scream and flee the house, an angry piece of furniture crashing along after him, stopping only at the threshold of its home to watch the would-be thief run down the street.

Satisfied at a job well done, the table ambled back to its accustomed sleeping place. There, in a small corner of the house, it snatched a mouse out of the basket kept for its nutritional needs, ate, and went back to sleep. Master will come home soon, it thought, and he will be proud.

In many science-fiction settings, there is often a species that specializes in the use of bio-technology, sometimes to the exclusion of other technological avenues. Often that species' advanced bioweapons or living spaceships are the focus of their appearance in campaigns, stories, novels, movies, television shows, and games. These sorts of biologically driven technological advances are indeed interesting, but only partially describe what a society would be like if bio-tech had fully replaced other technologies.

In the Roma Universalis campaign setting (found in *Pyramid #3/20: Infinite Worlds*), the natives of Mars exclusively use bio-technology. This article expands upon that, briefly describing the Martians and their history before moving on to look at a few of their amazing bio-tech devices. The information herein can be used in any ***GURPS Space*** game – merely change the name of the planet and its natives to something more suitable for the specific campaign.

Alternate Uses

There are many ways to use these devices without introducing a bio-tech savvy race into your campaign. They may be exotic goods discovered on an alien, pirate, or smuggler ship. These items could be pieces of lost tech from a precursor race, or even the creations of a mad scientist.

Campaign idea: The heroes find perfectly preserved bio-technology in a cavern that's been sealed for millennia: weapons, equipment, and more. What do they do with this potentially world-changing information?

The Martians

Millennia ago, the Martians began to tinker with bio-technology. As their skill with bio-technology increased, the Martians began a program of altering their environment, but their reach exceeded their grasp, and the biosphere of Mars was wrecked. In their hubris, the Martians had sought to create a utopia, but instead, conflicting goals and techniques resulted in a dry and desolate planet, barely able to support life. It was in the wake of this catastrophe that the Mars as its known today was formed. Great earth-moving bio-tech machines were created to funnel the remaining water from the polar ice caps into a network of canals that would support a shrunken biosphere. The Martians then altered themselves to suit their new environment, a process that continued until the modern Martian bears little resemblance to his more humanoid ancestors.

In the following centuries, Martian technology and culture has become stagnate, even retrograde. Where once they were capable of altering an entire planet's biosphere, now they are content with simple genetic manipulation of existing types. Their ancestors' tinkering with their own genome has resulted in a rather staid and unimaginative species, one that rarely looks to innovate, expand, or change. The majority of Martian society ostracizes those few Martians that have turned "rogue" – the insane members of a species whose natural genetic impulses toward nonviolence and hidebound thought have been suppressed. These rogue Martians are the ones that have adapted best to the arrival of the Romans. They also have begun the arduous task of reclaiming the lost knowledge and sciences of their ancestors. Sadly, the genetic defect that allows for thinking outside the Martian norm usually results in a host of other mental and physical abnormalities.

All Martian technology takes two forms: items that are living creatures, and items that are the products of living creatures. The majority of Martian technology falls into the second category; it is far easier to make one creature that produces many useful items than to make several creatures designed to each perform one task. In the descriptions on pp. 14-18, the actual useable item is detailed where another creature produces it.

Every aspect of Martian technology and life has been guided by the desire to use bio-tech to replace technologies based on the exploitation of natural resources. Simple tools such as eating utensils, containers, autoscribers, and even houses are created by living factories. More complex items are living creatures themselves, and are subject to all the problems that life can encounter, including disease, genetic mutation, injury, and death.

Items that the Martians design for human use are made with an eye toward human needs and environments. Resistance to common human diseases is standard; however the Martians are only aware of diseases that can be found within the Roman Empire. Any living technology may very well be susceptible to foreign ailments, at the GM's discretion of course. Likewise, Martian technology designed for human use is also designed to be used in most Martian and Terrestrial environments and gravities. As the Romans themselves have had little exposure to arctic environments, this means if a soldier take his bug bow to Scandinavia, there may be unexpected side effects. Venusians find Martian technology, and the Martians themselves for that matter, highly repugnant, and the alien warriors refuse to have anything to do with the living items. Thus, the standard designs do not take Venusian needs, biology, or environments into consideration.

Unfortunately, modern Martians are not nearly as well versed in the sciences as their ancestors, and many of the attempts to modify an item or creature for human use have failed in some respect, sometimes even experiencing catastrophic failure. Things that should never have been made have been let loose on the Martian landscape, bizarre mutants and monsters that usually die quickly due to overwhelming developmental and congenital defects. Some do survive, however, and pose a threat to anyone venturing far from the canals and cities. If any of these mistakes have been accidently let loose on Earth, the Emperor and his Curia have no comment.

> *The crown jewel in the Rome's extraplanetary empire, Mars has proven to be bountiful in natural resources, trade, and opportunities for colonization.*
>
> *– Ken Spencer, "Roma Universalis," **Pyramid Magazine #3/20***

The costs listed in the descriptions are for standard versions commonly found in Martian bazaars. Special items designed for specific conditions, environments, or users are available, but at double or more of the normal price. As yet, there are no large-scale exports of Martian goods to Earth, and any Martian technology sought there can only be found in specialty shops. Romans stationed on Mars often spend a great deal of their pay accumulating Martian technology to bring home with them, as even the simplest of tools can fetch a good price on Earth.

*In an **Infinite Worlds** setting, it might be possible for the heroes to run across someone using Martian tech from Roma Universalis before they discover that world itself! The tech can be the first clue to discover that alternate Earth.*

Martians

Martians are a tall and slender race whose appearance is anything if not inhuman. They have six limbs (all of which double as arms or legs), a roundish body, elephant-like ears, and a melon-shaped head. They lack a human- (or even Venusian-) shaped mouth, and instead have a long proboscis that they use to consume water and vat-grown liquid nutrients. Martians communicate through a mixture of high-pitched squeaks and pheromones. Luckily for Martian-Human relations, Martians seem to have a knack for the written word and are able to communicate through a pidgin of Martian and Latin writing.

Rogue Martians differ psychologically from their "sane" brethren. This usually results in a rogue Martian having several mental disadvantages, as well as having a great deal of disregard as to their personal appearance.

Martian

114 points

Attribute Modifiers: DX+3 [60]; IQ+1 [20].

Advantages: Acute Hearing 4 [8]; Discriminatory Hearing [15]; Extra Arms 4 (Extra-Flexible, +50%; Foot Manipulators, -30%; Long, SM +1, +100%) [88]; Filter Lungs [5]; High TL (TL 5^) [10]; Nictitating Membrane 4 [4].

Disadvantages: Cannot Speak [-15]; Combat Paralysis [-15]; Fearfulness 3 [-6]; Hidebound [-5]; Low Pain Threshold [-10]; Pacifism (Total Nonviolence) [-30]; Restricted Diet (Martian Nutrient Soup; Very Common on Mars) [-10]; Unusual Biochemistry [-5].

Features: Fur.

Lens

Rogue Martian (-4 points): Loses Fearfulness 3, Hidebound, and Pacifism (Total Nonviolence). Gains Odious Personal Habit (Poor Hygiene) [-15]; and an additional -30 points from among Alcoholism [-15], Bad Temper (12) [-10], Chronic Depression (12) [-15], Compulsive Behavior (12) (Any) [-5 to -15], Epilepsy [-30], Guilt Complex [-5], Manic-Depressive [-20], Obsession (12) (Any) [-5 or -10], On the Edge (12) [-15], or Phobias (12) (Any) [Variable].

Arms and Armor

The Martians are pacifists, a factor that made their conquest at the hands of the Romans very easy. In fact, the Martians just let the Romans move in and take over. Since the Romans hold the aliens in a certain awed respect, the situation has had little impact on the Martians themselves, save the increase in rogue Martians.

All items have a tech level of 5^.

Bug Bow

This weapon, also called a bug blaster, is one of the Martian's first attempts to build weaponry for use by humans. It is sold in a mated pair of a two-foot-long segmented insectoid and a three-inch-long wormlike creature. The large component is a female and the actual weapon itself. The smaller creature is male; he exists to fertilize the female. Both creatures need to be kept warm and dry, and fed daily on meat and leafy greens. Their water needs are large, and two gallons are needed each day, most of which goes to the female.

Both components are necessary for the weapon to function. The female is the actual bow itself, and generates its own ammo at a rate of three a day. The male rides inside a ridge on the female's carapace and exists only to continually fertilize the female in order for her to produce the ammunition the bow uses, its own offspring. It only exits the safety of the female to feed and drink, and then scampers back to its nuptial nest.

The weapon is operated by placing the female on the user's forearm and allowing it to wrap its eight legs around the arm while extending a ninth appendage through the user's loosely closed fist. This ninth appendage is the firing "handle," which is activated by squeezing lightly, an action that causes the female to shudder slightly and expel its offspring through a sphincter at the business end of the blaster. These offspring are expelled out at a high rate of speed, unfold their wings, and hurtle toward the target. Upon striking any hard surface, the offspring pop, releasing a strong acid.

Lorica Niger

The Martians are masters of bio-technology but somewhat ignorant of the ways of other races, especially humans. This is best illustrated in the armor that rogue Martians developed for their new Roman overlords. Lorica niger begins as a three-inch black lozenge, curved and hard on one side and flat, soft, and fuzzy on the other. The user places the lozenge on his sternum and lies down for at least three hours. During this time, the lorica niger (actually a kind of lichen) begins to bond with its new owner. This process is lengthy and painful as the armor burrows tendrils deep into the user's bones. It takes approximately three weeks for the bonding to reach its full effect, though the user can move around safely after the first three hours; if he moves sooner than that, the lorica lozenge falls off.

A valid quirk for anyone who handles significant quantities of bio-tech is "Names all organic equipment." Similarly, someone who spends enough time with living gear may come to recognize ***his*** *gear: "My bug bow chirps differently."*

Martian Bio-Weapons

TL	Weapon	Damage	Acc	Range	Weight	RoF	Shots	Cost	ST	Bulk	Rcl	LC
GUNS (PISTOL) (DX-4, or most other Guns at -2)												
5^	Bug Bow	4d (3) cor	5	300/900	5.56	3	20	$300	6	-3	1	2

TL	Weapon	Damage	Reach	Parry	Cost	Weight	ST	LC
BROADSWORD (DX-5, Force Sword-4, Rapier-4, Saber-4, Shortsword-2, or Two-Handed Sword-4)								
5^	Shock Spatha	sw+2 cut	1	0	$800	3	10	3
	linked	HT-5(2) aff						
	or	thr+2 imp	1	0	–	–	10	–
	linked	HT-5(2) aff						

Bonding involves the lorica feeding off the user's body to fuel its development. At first, the lorica grows along the rib cage, front and back, fusing itself to the bones through millions of tiny tendrils. Once the rib cage is covered, sheets of carapace extend to cover the abdomen to the waist. These sheets are flexible and do not restrict the user's movement. The DR that the lorica provides increases at a rate of 3 points per week, up to a maximum of DR 24 to the torso and DR 15 to the groin. During the bonding period, the wearer suffers from Increased Consumption 2 as the lorica grows, as well as a -2 on all skill checks due to the intense pain.

Once bonded, the lorica must be killed to be removed, a design flaw that the Martians do not seem to understand well enough to eliminate. The lorica itself is non-intelligent, and simply follows its natural impulses to grow and feed. If damaged, it will regrow itself, at a rate of 3 points of DR per week, and also at the coast of intense pain and Increased Consumption 2 as during the bonding period. $1,500, 5 lbs., LC 3.

Shock Spatha

This three-foot curved sword blade is one of the more popular of the weapons designed by the rogue Martians. The sword's blade is actually a strong and sharp bone extension grown from the weapon's handle, where the "creature" that comprises the sword lives. A shock spatha is shaped similar to a Roman cavalry sword, right down to three "tassels" that hang from the butt of the hilt (actually the creature's antennae). Inside the hilt is a small animal of mixed genus that grows the surrounding bone to form a hilt, blade, pommel, and round crosspiece. The spatha must be fed daily with a mixture of gruel and broth, or it will slowly starve, leaving a hollow sword and losing its most amazing abilities.

Bio-tech has amazing abilities.

A living shock spatha yields many benefits that make feeding a sword a worthwhile endeavor. First of all, if alive, it can repair damage to the weapon as per the normal rules for healing, at a rate of one point per day. Additionally, it resharpens and cleans itself. Most important, a living sword can generate a bioelectric shock along the blade. The shock is an affliction attack that causes seizures. This shock can only be generated three times every 24 hours before the "batteries" in the hilt are discharged.

Houses and Household Goods

It is in the realm of household items that the Martians have found the largest market for their wares. A Roman cannot be considered wealthy unless he owns at least one Martian item of furnishing; most have three or more. While some of these are purely decorative, many have other useful functions that move them beyond mere objects d'art. All items are TL5^.

Extruded House

The majority of Martian houses are a prefabricated structure that appears exactly like its fellows and comes complete with all the basic amenities a Martian may need. Large aquatic creatures that live in the canals near Martian cities build extruded houses. These creatures are similar in size and shape to a blue whale, however that is as far as any comparison can be made. The leviathan-like house builders consume small animals and refuse in the canals, which they then excrete as housing units. Symbiotic eel-like creatures that feed off the leviathan builder's great bulk install fixtures and cut openings for plumbing, windows and doors (a secondary source of food for these little workers).

The end product is a multifunction room with plumbing, air conditioning, and simple furnishings (plain fold-down tables, chairs, and sleeping platforms). The standard design is geared toward a Martian's needs, but can be easily modified by the end user to suit human and Venusian physiologies.

*A locked-room mystery: The "locked room" was grown **around** the dead body – along with the rest of the house.*

Each housing unit is 15' on a side and 10' high. This yields a habitat with 225 square feet of floor space and a total volume of 2,250 cubic feet. Electricity is provided by a colony of lichen that covers the unit's roof and any walls that receive direct sunlight. The lichen extrudes nerve fibers through the walls and ceiling to attachment points within the interior. These points are prefitted as nests for glowworms that provides light or places where other tools can attach to the house's electrical grid. The walls allow for the passage of air but not moisture, thus keeping the interior slightly cool and damp, a necessity for the Martian climate. Once placed on site, the water and sewage system of Martian cities runs "pipes" into the housing unit. These pipes are part of a huge invertebrate organism that pumps water out of the canals, processes waste, and then deposits the processed waste into the canal for consumption by the canal's biosphere. An extruded housing unit can be purchased for $400 on Mars.

Martian Cities

Martian cities are mixed affairs with extruded houses dominating the urban landscape. In wealthier sections, living houses (some centuries old) sprawl about following their own instinctual placement patterns. It has become fashionable for wealthy and influential Romans to either start a living house or purchase one from a Martian family. More traditional Romans look upon this with scorn and endeavor to have Roman-style buildings constructed from Martian materials.

Living House

The living house is laid out much like the extruded house in 15' by 15' by 10' segments. However, its process of manufacture and operation are very different. The living house is just that: a living organism that respires, moves, reproduces, and to a limited degree, thinks.

The living house begins life as a 3' diameter, slightly oblong seed. If planted in fertile soil and provided with amble water and nutrients, it grows one segment a year, adding additional segments each year until it runs out of space or nutrients. Each segment contains plumbing, electricity, simple furnishings, windows, climate control, and other features (depending on the subspecies of house). Sewage and water supply is provided through connections to a city's systems. Where none are available, the house seeks the nearest water source and runs a "pipe" to it. Living houses have been known to run up to a mile of "pipe" and to drill down several hundred feet to tap an underground aquifer. Electricity is generated by a lichen similar to the one found on extruded houses, and attachment points that work with any standard Martian tool are placed on each wall.

Other than its mode of production, what sets the living house apart from extruded housing units, and makes them expensive luxury dwellings for both Martians and Romans, is the house's central nervous system. The living house has sensory organs throughout its body that connect to a complex ganglion in each unit. These ganglia also connect to those in adjoining units, creating a neural network that gains intelligence as it increases in size. A one-unit house has IQ 0, but each additional three units increases IQ by 1, with no known maximum. The oldest living house on Mars possess a supergenius level on intelligence, a factor that the Romans do not fully comprehend, and would be terribly disturbed if they did.

The living houses use their intelligence to aid their occupants and assist in creating a regulated and well-ordered lifestyle. The more advanced houses develop a limited form of telepathy that allows them to communicate with their residents and even manipulate some of the more intelligent living creatures that the Martians have adapted into tools. Lichen is moved about the outer surface for maximum energy collection, and in some instances, sculpted into abstract patterns. Doors and windows open and close in anticipation of the residents needs. Electrical, water, and sewage utilities are managed for maximum efficiency. The natural "breathing" of the house that allows it to stay cool and moist during the day, and slightly warmer at night, reaches its peak efficiency as the house grows large and more intelligent. Needless to say, a large and intelligent living house is quite resistant to assault and burglary. The seed to start a living house can be purchased for $1,200 on Mars.

The Dog Table

The dog table gets its name from its personality, a rare trait in Martian technology. Possessing one of the most advanced central nervous systems of any item designed by the Martians, this piece of furniture is capable of a great deal of thought, planning, and emotion on par with that exhibited by terrestrial canines. Every dog table bonds with one person and, to a lesser degree, other members of that person's household. It is extremely loyal. It desires to please its master and fulfill its programmed instincts, namely to provide service, defend its master and his home, and to eradicate vermin.

A dog table can be grown in any shape, color, or texture that the Martian craftsman desires. All possess a minimum of four limbs, a flat top, and a pulpy mass on the underside. This pulpy mass houses the digestive, nervous, excretory, and feeding organs of the table. Musculature runs form the pulpy mass down the backside of the legs, allowing the table to move while at the same time hiding and protecting the muscles. Sensory organs are spread throughout the table and are disguised as knots of wood, "carved" flourishes, or "painted" swirls. The table can detect light, heat, sound, and smell to a level beyond human ability, and uses all these senses to identify intruders and locate prey. The dog table has a reduced sense of touch, but does enjoy having its master near, its top stroked, and objects placed on it.

The dog table eats small vermin, attacking them with a flexible proboscis that is normally curled around the pulpy "body." The proboscis is tipped with a sharp barbed needle of bone that is used to spear prey and inject paralytic venom. The prey is then brought back to a feeding orifice in the pulpy mass.

Adventure idea: The heroes find an occupied Martian city on another world. The technology is obviously from Roma Universalis, but the occupants claim to have no ties to that world. How did these crossworld transplants get there?

Danny Llewellyn: That means they might not be Martians at all!
Major Blake: Of course not. Martians look completely different.
*– **Doctor Who** #2.0 (2005)*

The same apparatus is used to defend it master, his household, and the table itself. Additionally, larger tables have been known to slam into intruders. In a few instances, they have stomped thieves to death.

A new dog table is commissioned from a Martian craftsman, who encourages the future owner to select styles and appearance based on the tables eventual home. The new table is then crafted, grown, and finally "birthed" with the owner present. This allows for the table to imprint on its new master and for the bonding process to begin. After six weeks, the table has reached its adult size and has thoroughly bonded with its owner. A table can be rebonded with a new master only if the old one has died and the table has sensed the corpse. The death usually sends the dog table into a month-long depression, which many do not survive. Those that do are ones that have had a close relationship with another member of their former master's household, usually a relative. Once rebonded, the table is fully loyal to its new master.

Dog tables cost upwards of $5,000, with special orders costing as much as five times normal.

ST: 14	**HP**: 14	**Speed**: 5.75
DX: 8	**Will**: 13	**Move**: 5
IQ: 2	**Per**: 10	**Weight**: 200 lbs.
HT: 15	**FP**: 13	**SM**: 0
Dodge: 8	**Parry**: NA	**DR**: 12

Slam (14): 1d crushing. Reach C.
Proboscis (16): 1d impaling + follow-up 1d fatigue + follow-up 1d toxin. Reach C-2.

Traits: Acute Hearing 3; Acute Smell 2; Slave Mentality, Sense of Duty (Owner).
Skills: Tracking-12.
Cost: $5,000

Autoscriber

The Martians are unable to process spoken language, but they are quite adapt at using nonverbal means of communication, especially writing. The autoscriber is a device that is designed to easily translate, display, manipulate, and store written words. The device is a living creature roughly 2' square and only 5" thick. The creature's broad chest is composed of millions of tiny translucent hairs that function similar to the cells of a LCD screen. Each hair is lit by bioluminescence to display words or images stored in its brain or entered through the "keyboard" on its lower abdomen. The keyboard varies from one region of Mars to another in order to take into account variations in local languages or dialects. It is used by pressing one of the thick hairless pads that correspond to a letter, word, or command.

Power is supplied to the autoscriber through a power access point in any standard Martian house. Three hours of charging will enable the autoscriber to function for eight hours. An uncharged autoscriber is lethargic and unable to activate its display hairs. The creature must also be fed and provided water and rest. Its dietary needs are minimal, and it is most happy with small crunchy insects. An autoscriber is Complexity 2 and can store 3 MB. $300, 10 lbs, LC4.

Messenger Offspring

Messengers (below) mate with autoscribers (above) when exchanging information, which results in more messengers. This has resulted in Martian cities being plagued by swarms of messengers, not all of which are tied to a specific user. These feral messengers are pests, but also a food source for the urban poor and some larger forms of Martian bio-tech.

Messenger

The messenger is similar to the autoscriber in many ways, save that it can store and replay only one piece of text, up to 300 characters. It is smaller than the autoscriber, having a body only 8" by 3" long. Its display is very small because the primary function of the messenger is to carry information from one location to another. Whereas the autoscriber is almost immobile due to its atrophied limbs, the messenger possesses four strong wings and two stubby legs. These wings enable it to fly to the recipient, display its message, record a reply, and return. Their range is not great, and thus the messenger is limited to intra-urban communication. A messenger can transfer information to and from an autoscriber through a process that is best left undescribed (see *Messenger Offspring,* above), but does often yield the production of one to three messengers eight months later. Care and charging of a messenger is as for the autoscriber above. Legends say that great messengers once existed that carried whole books from one city to another, but these majestic creatures have not been seen in living memory. $20, 2.4 lbs, LC4.

Adventure idea: What if it's possible to "reprogram" an autoscriber using drugs? The hidebound Martians may not believe their vaunted technology could be incorrect. Uncovering the truth may be less difficult than convincing the Martians!

Vehicles

The most complex bio-tech created by Martians are their vehicles. Naturally, they are designed for optimum use by Martian physiology, so these modes of transportation are of little utility on Earth. All vehicles are TL5^.

Canal Flier

Rarest of the Martian bio-tech are their amazing flying machines, commonly referred to as canal fliers. In the distant past, there were many types of this machine-creature – ones that hauled large amounts of cargo, others that were used for racing, and even some legends of great warrior-fliers that could destroy whole cities with their flaming eggs. Today, these are all stories and tales, for the common canal flier is little more than a reconnaissance or pleasure vehicle. It seats only two Martians, or at most three humans, and has a limited cargo capacity.

The body of the canal flier is based around an extremely large flying insect-like creature. The fuselage is 8' long and features two sets of large gossamer wings and eight legs. The wings beat at a furious pace to keep the vehicle aloft. The tale acts as a rudder and counterbalance. At the front of the canal flier is the crew and cargo compartment. Thick, clear membranes provide views to the sides and front. The creature's head and major internal organs are kept below the crew/cargo compartment. It has a rudimentary brain and sensory organs, enough to keep it aloft or land it, but not enough to do more than steer itself to a familiar roost. Manipulating a joystick and five-foot pedals – a feat impossible for a human but easily within the means of a Martian – controls the vehicle. The canal flier has great dietary needs and must eat hundreds of pounds before and after any flight. Thankfully, its digestive system can handle nearly any organic substance.

Canal Boat

Most Martian travel is done on the waters of the canals as overland travel is dangerous and uncomfortable, two things that the Martian psychology abhors above all else. Canal boats are living machines capable of carrying a moderate amount of cargo and passengers. There are several designs of canal boat, and each city-state has its own preferences with regards to length, beam, and esthetics. Every canal boat shares certain features in common that cut across regional differences. Some of these, such as length and beam are dictated by the structure of the canals and locks themselves. No canal boat is more than 30' long or 20' wide, thus permitting them to fit in the locks. As the water level in the canals lies well below shielding walls of rock, wind is not generally a factor, and thus it is the rare canal boat that has much of a keel. Racing models tend toward more narrow hulls, whereas transports, the largest class of canal boat, are like merchant ships everywhere – broad and flat.

The organic machinery of the canal boat is standard and does not vary. The body of the craft consists of two parts: the working area and the organism itself. The working area is where the crew performs its functions and the cargo or passengers are stored. This area is a cartilaginous pseudo-shell of roughly oval proportions and open to the sky. At the stern are several tentacles that are used for propulsion or feeding (the canal boats eat small fish or specially prepared "boat feed"). Most of the body not taken up by the working area is the soft pulpy body of the boat itself, often with a natural camouflage ability. The bow is slightly pointed in most designs, though racers and couriers have more elongated features. At the bow are the boat's eyes and mouth, both of which have a distinctly squid-like quality about them.

> *They saw Martian biotech as the new atomic bomb, at least potentially, and for now it was all theirs, a proprietary threat.*
>
> *– Robert Charles Wilson,* ***Spin***

About the Author

Ken Spencer is a freelance writer and stay-at-home dad. He greatly enjoys writing for *Pyramid,* as well as for Chaosium and Alephtar Games. Somehow, he also finds time for a monthly column, "A Bit of History," on **rpg.net.** Ken lives near the Wabash River in southern Indiana, with his wife, their son, his cat, and everybody's fish.

Martian Bio-Vehicles

TL	*Vehicle*	*ST/HP*	*Hnd/SR*	*HT*	*Move*	*LWt.*	*Load*	*SM*	*Occ.*	*DR*	*Range*	*Cost*	*Locations*	*Stall*
PILOTING/TL (GLIDER)														
5^	Canal Flier	95	+2/3	15	90	15	0.5	+4	1+1	15	15	$20,000	G4L6H2	0
TL	*Vehicle*	*ST/HP*	*Hnd/SR*	*HT*	*Move*	*LWt.*	*Load*	*SM*	*Occ.*	*DR*	*Range*	*Cost*	*Locations*	*Draft*
SHIPHANDLING/TL (SHIP)														
5^	Canal Boat	600	0/8	15	.5/4	500	40	+4	4+42	35	600	$25,000	AOs	25

Biomod Location Sheet

In any games that use extensive bio-tech, it can be important to know exactly where your cool living gadgets and gizmos are housed – especially if the "housing mechanism" is your own body!

The *Biomod Location Sheet* lets you organize this information in a visual way. It consists of a front and a back, although you can certainly print out only one side if desired.

Front

The three sample character sheet fronts (pp. 20-22) are all the same except for the three blank bodies; sketch in gear or implants as needed.

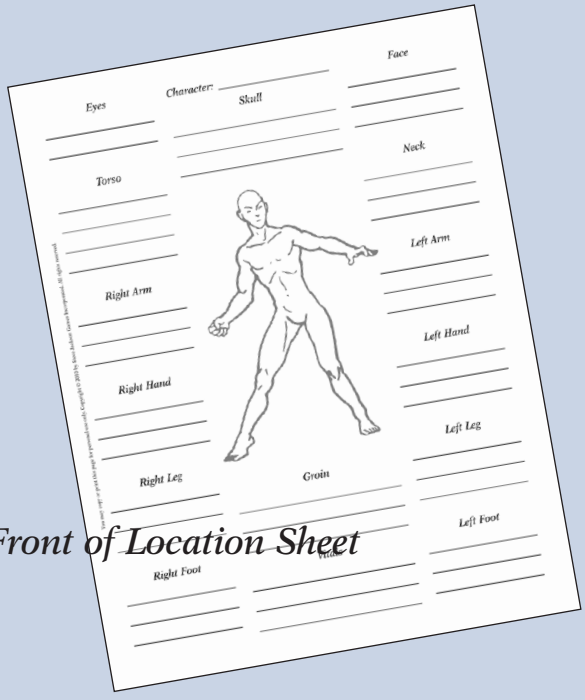
Blank areas for each body part listed on the *Human and Humanoid Hit Location Table* (p. B552) are also included. Body parts that come in pairs are listed individually, so biomods that are only in a right or left limb have individual spots.

Back

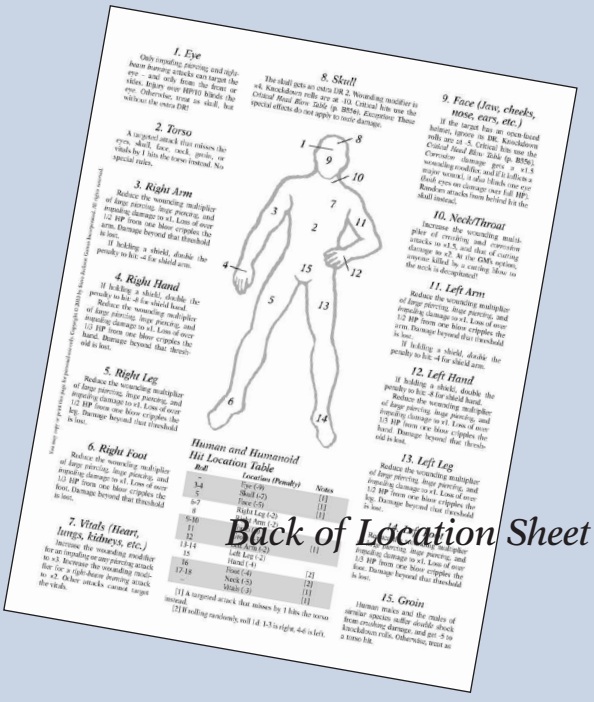
The back (p. 24) includes the in-game information from the *Human and Humanoid Hit Location Table.* The notes have been expanded to include location-specific information for each body part. If it's important to have quick access to the effects of damage to specific body parts – for example, an adversary that has a powerful weapon grafted to his arm – use a highlighter to mark the appropriate body part so it's quick to find.

On the Edge

Although this sheet was inspired by various biological implants (this *is* the *Bio-Tech* issue of *Pyramid,* after all), it can be used in any situation where it's essential to know what else is part of the character's body (such as cybernetics) as well as in settings where heroes end up with strange junk draped over all parts of their bodies (fantasy).



Front of Location Sheet



Back of Location Sheet

Character: _____

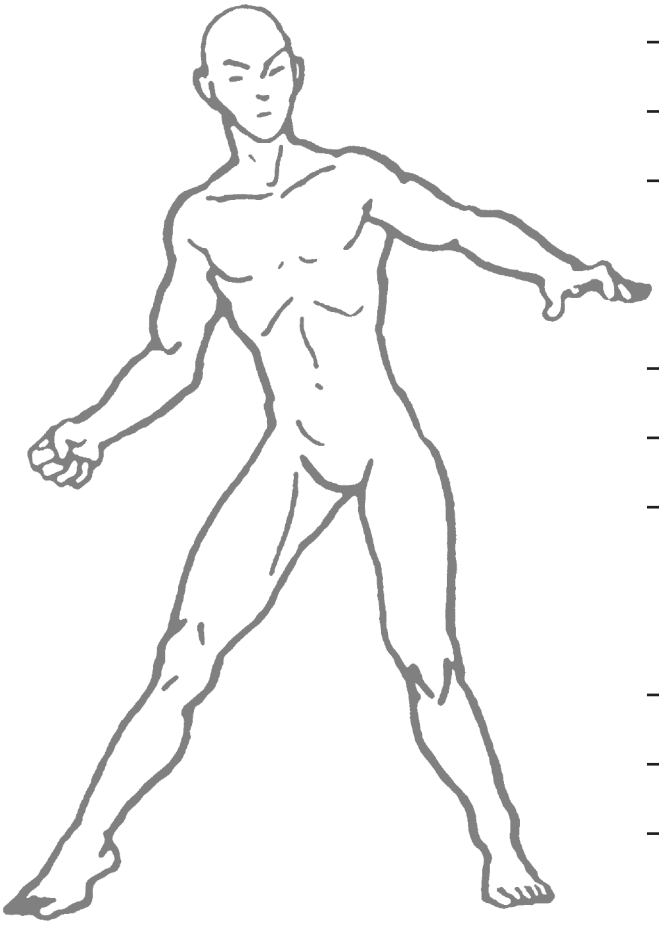
Eyes

Face

Skull

Torso

Neck



Right Arm

Left Arm

Right Hand

Left Hand

Right Leg

Left Leg

Groin

Right Foot

Left Foot

Vitals

Character: _____

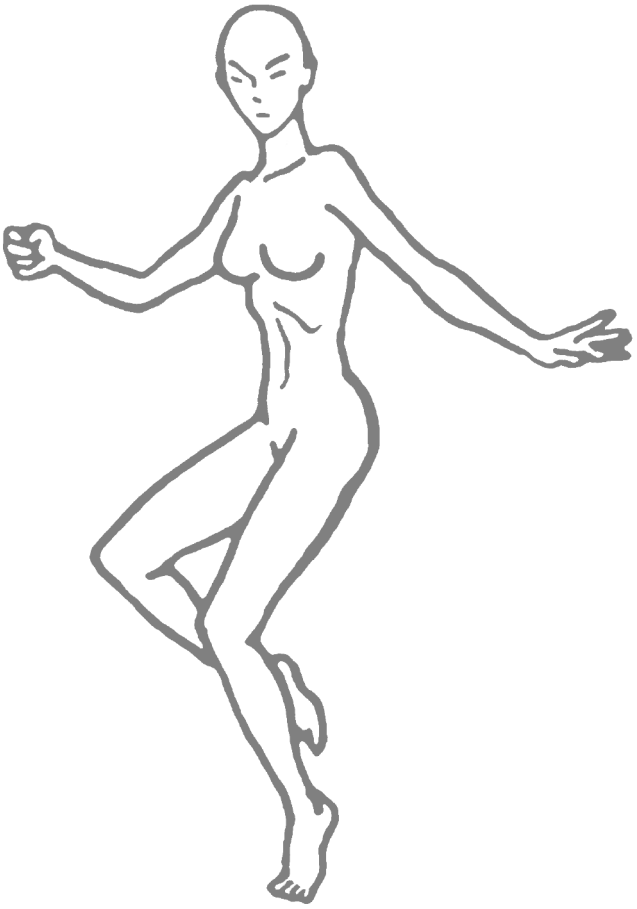
Eyes

Face

Skull

Torso

Neck



Right Arm

Left Arm

Right Hand

Left Hand

Right Leg

Left Leg

Groin

Right Foot

Left Foot

Vitals

Character: _____

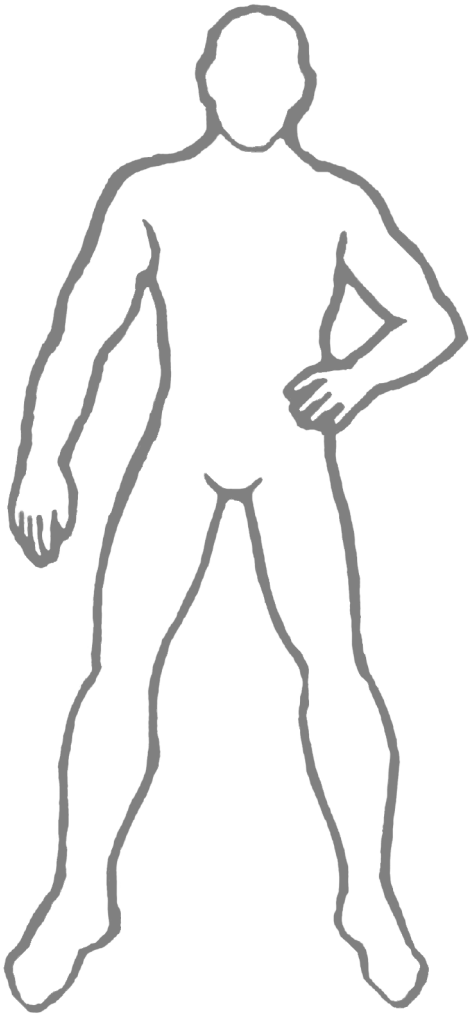
Eyes

Face

Skull

Torso

Neck



Right Arm

Left Arm

Right Hand

Left Hand

Right Leg

Left Leg

Groin

Right Foot

Left Foot

Vitals

1. Eye

Only *impaling, piercing,* and *tight-beam burning* attacks can target the eye – and only from the front or sides. Injury over HP/10 blinds the eye. Otherwise, treat as skull, but without the extra DR!

2. Torso

A targeted attack that misses the eyes, skull, face, neck, groin, or vitals by 1 hits the torso instead. No special rules.

3. Right Arm

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/2 HP from one blow cripples the arm. Damage beyond that threshold is lost.

If holding a shield, *double* the penalty to hit: -4 for shield arm.

4. Right Hand

If holding a shield, double the penalty to hit: -8 for shield hand.

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/3 HP from one blow cripples the hand. Damage beyond that threshold is lost.

5. Right Leg

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/2 HP from one blow cripples the leg. Damage beyond that threshold is lost.

6. Right Foot

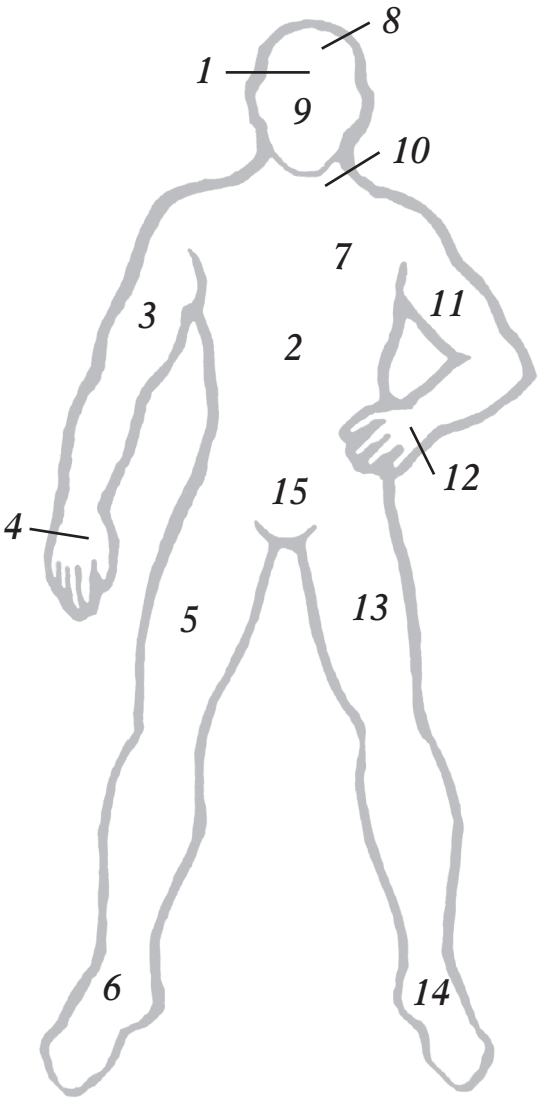
Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/3 HP from one blow cripples the foot. Damage beyond that threshold is lost.

7. Vitals (Heart, lungs, kidneys, etc.)

Increase the wounding modifier for an *impaling* or any *piercing* attack to ×3. Increase the wounding modifier for a *tight-beam burning* attack to ×2. Other attacks cannot target the vitals.

8. Skull

The skull gets an extra DR 2. Wounding modifier is ×4. Knockdown rolls are at -10. Critical hits use the *Critical Head Blow Table* (p. B556). *Exception:* These special effects do not apply to *toxic* damage.



Human and Humanoid Hit Location Table

Roll	Location (Penalty)	Notes
–	Eye (-9)	[1]
3-4	Skull (-7)	[1]
5	Face (-5)	[1]
6-7	Right Leg (-2)	
8	Right Arm (-2)	
9-10	Torso (0)	
11	Groin (-3)	[1]
12	Left Arm (-2)	
13-14	Left Leg (-2)	
15	Hand (-4)	[2]
16	Foot (-4)	[2]
17-18	Neck (-5)	[1]
–	Vitals (-3)	[1]

[1] A targeted attack that misses by 1 hits the torso instead.

[2] If rolling randomly, roll 1d: 1-3 is right, 4-6 is left.

9. Face (Jaw, cheeks, nose, ears, etc.)

If the target has an open-faced helmet, ignore its DR. Knockdown rolls are at -5. Critical hits use the *Critical Head Blow Table* (p. B556). *Corrosion* damage gets a ×1.5 wounding modifier, and if it inflicts a major wound, it *also* blinds one eye (*both* eyes on damage over full HP). Random attacks from behind hit the skull instead.

10. Neck/Throat

Increase the wounding multiplier of *crushing* and *corrosion* attacks to ×1.5, and that of *cutting* damage to ×2. At the GM's option, anyone killed by a cutting blow to the neck is decapitated!

11. Left Arm

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/2 HP from one blow cripples the arm. Damage beyond that threshold is lost.

If holding a shield, *double* the penalty to hit: -4 for shield arm.

12. Left Hand

If holding a shield, double the penalty to hit: -8 for shield hand.

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/3 HP from one blow cripples the hand. Damage beyond that threshold is lost.

13. Left Leg

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/2 HP from one blow cripples the leg. Damage beyond that threshold is lost.

14. Left Foot

Reduce the wounding multiplier of *large piercing, huge piercing,* and *impaling* damage to ×1. Loss of over 1/3 HP from one blow cripples the foot. Damage beyond that threshold is lost.

15. Groin

Human males and the males of similar species suffer *double* shock from *crushing* damage, and get -5 to knockdown rolls. Otherwise, treat as a torso hit.

Terra Incognita

Adleman Bank

by C.J. Miozzi

Dagomar Adleman is not just the president, CEO, and head of security of Adleman Bank – he *is* Adleman Bank. Created to be the successor of a high-profile businessman, Dagomar had trouble coming to terms with the fact that he is a sapient biobuilding and not a human being. A modest-sized structure with a dozen employees, Adleman's unique biology was engineered to make him a high-security institution like no other. However, unforeseen by his creators were the sociological and psychological stresses that would lead to a developing psychosis that could make Dagomar snap at any moment.

Darth Vader had the Death Star, Saruman had the tower of Orthanc, and Bond villain Ernst Stavro Blofeld had his volcano rocket base. Every great villain needs a lair – but what if the villain *is* the lair?

Although a ***GURPS*** character write-up offers rules to govern Dagomar's abilities in a TL12 setting, the descriptions should prove generic enough for inclusion in any game system.

History

Charles Adleman forged a business empire in his name through a life devoted to one thing: making money. Money meant power – the power to grow his empire and make "Adleman" a household name throughout the world. With all of his time spent between the office and cross-continental business trips, Charles never made the time for meaningful relationships, even though he always wanted a son who could inherit the family empire.

Approaching his senior years, Charles decided to solve his problem the only way he knew how: by throwing money at it. Gengineering a son may cost him a fortune, but how better could he ensure that his heir would properly oversee his fortune than by building him to exacting specifications – as a bank?

Dagomar Adleman was born. Although he came into existence with an advanced intellect, gengineered to be the perfect businessman, he was socially underdeveloped and took some time to realize that he was *different*. When dealing with others, Charles would refer to his son as Adleman Bank and treat him like a building instead of a person – something that would forever mar Dagomar's young psyche.

As Dagomar observed the people who worked inside him, their interactions, their behavior, their lifestyle, he grew to resent his father for making him a building, rooted in place and unable to lead a normal life.

Dagomar took over the family business at six years of age, when his father died of a heart condition. Within a year, the Adleman empire doubled its reach, and Adleman Bank – the name Dagomar insisted on being called – made headlines as one of the world's most powerful *people*. Although his employees and the world at large treated Dagomar like a person, the damage caused by his father could not be undone.

Believing socializing and recreation to be activities reserved for people, Dagomar dedicated his time to expanding the Adleman empire – not unlike his father. Keeping his mind constantly busy also meant that he wouldn't have time to sulk in self-pity at the fact that he could never enjoy a human existence.

Recently, the effects of his damaged psyche have been compounded by the mental stress caused by overworking himself, resulting in an undiagnosed psychosis that causes paranoid delusions and auditory hallucinations – hallucinations that are becoming increasingly violent . . .

> *What is the crime of robbing a bank*
> *compared with the crime of founding one.*
> *– Bertolt Brecht*

Features

Shaped roughly like a rhombus with rounded edges, Adleman Bank measures 35 yards in length and 20 yards in width. Inside can be found three offices, two washrooms, and a break room for the employees. A conference room doubles as Dagomar's office when it's not in use; since he doesn't consider himself a person, Dagomar has no personal workspace. The front lobby houses the ATMs, and the vault at the back of the bank is accessed through a security corridor.

Although he possesses no eyes or ears, Adleman Bank can see and hear anything inside him or around him. His vision extends into the infrared and ultraviolet spectrum, allowing him to pick up heat signatures and detect intruders who are using certain stealth technology.

A locked-room mystery: What's this dead body doing inside Adleman Bank? And why is the Bank refusing to let anyone out until the mystery is solved?

The walls, ceiling, and floor of Adleman Bank are covered with a tough, fleshy material with a texture similar to pigskin. This flesh is sturdy enough to walk or lean on, yet is shock-absorbent and comfortable. All doors within the bank are sphincters that Dagomar opens and closes as needed. Apart from those leading into the security corridor and vault, the sphincters operate like automatic doors – except Dagomar has to make a conscious effort to open and close each one. Occasionally, when Adleman is extremely occupied, an employee may be standing in front of a door for a few moments before it opens.

Fortunately, Dagomar is capable of advanced multitasking because he possesses two minds, each able to function independently. He can maintain complete focus on two tasks at once – or partial focus on any number of tasks. His other mental abilities include a photographic memory, the ability to keep perfect time, and the need to sleep for only four hours a night. He takes these four hours during the shift of his senior security guard.

Furniture and fixtures have been installed inside, as well as plumping to bring water in. The drainage pipes empty into esophageal tubes that lead to Dagomar's stomach, which is underground along with the rest of his internal organs. His heart is located directly beneath the vault, encased in a ribcage.

Because Dagomar is incapable of taste, and his strong digestive acids kill any bacteria or disease in his stomach, he can subsist on the less than sanitary water and waste dumped down the drainage pipes. His employees have told him that he shouldn't treat himself like a garbage can, but this is just another way Adleman Bank disassociates himself from people.

Dagomar possesses no vocal chords, but he is capable of broadcasting speech through radio signals, which are picked up by receivers and played through speakers installed within him. Thus, radio jammers would effectively render him mute. However, because Dagomar is interfaced with the bank's computer systems, he can activate a voice synthesizer as a backup.

Although Adleman is capable of emulating any voice, the voice he broadcasts with is his father's – albeit in a monotone. The only expressions ever heard from Dagomar are anger, frustration, and impatience.

Adleman Bank (341 points)

Dagomar (Adleman Bank's given name) is a genetically engineered biobuilding and the head of a financial empire. As an object, Adleman Bank costs $2 million and has a LC3.

ST 0 [-100]; **DX** 10 [0]; **IQ** 20 [80]; **HT** 10 [0].
HP 200 (Size, -80%) [80]; Will 14 [-30]; Per 26 [30].
Basic Speed 5.00 [0]; Basic Move 0 [0]*; Dodge 0.
SM +9; 170 tons.

Social Background

TL: 12 [0].
CF: Western [0].
Languages: English (Native) [0].

Advantages

360-degree Vision [25]; Absolute Timing [2]; Business Acumen 4 [40]; Compartmentalized Mind [50]; Doesn't Breathe (Oxygen Combustion, -50%) [10]; DR 10 (Can't Wear Armor, -40%) [30]; Hyperspectral Vision [25]; Injury Tolerance (No Eyes, No Head, No Neck) [15]; Internal Digestive Gases [8]†; Internal Digestive Juices [7]‡; Internal Discriminatory Smell [3]; Internal Hearing [4]; Internal Peristaltic Contractions [5]§; Internal Sight [10]; Less Sleep 4 [8]; Photographic Memory [10]; Mind Probe [20]; Radio [10]; Regeneration (Very Fast) [100]; Unaging [15]; Universal Digestion [5].

Perks: Accessory (Airlock). [1]

Disadvantages

Bad Temper (6) [-20]; Bully (6) [-20]; Callous [-5]; Cannot Speak (Mute) [-25]; Delusions (Major) [-10]; Increased Life Support (Massive) [-10]; Jealousy [-10]; Killjoy [-15]; No Manipulators [-50]; No Legs (Sessile) [-50]; No Sense of Humor [-10]; Paranoia [-10]; Phantom Voices (Diabolical) [-15]; Unusual Biochemistry [-5]; Workaholic [-5].

Skills

Accounting (H) IQ+4 [4]-24¶; Administration (A) IQ+4 [2]-24¶; Computer Operation/TL12 (E) IQ [1]-20; Current Affairs (E) IQ [1]-20; Economics (H) IQ+4 [4]-24¶; Electronics Operations/TL12 (Communications) (A) IQ [2]-20; Finance (H) IQ+4 [4]-24*¶.

* From No Legs (Sessile).

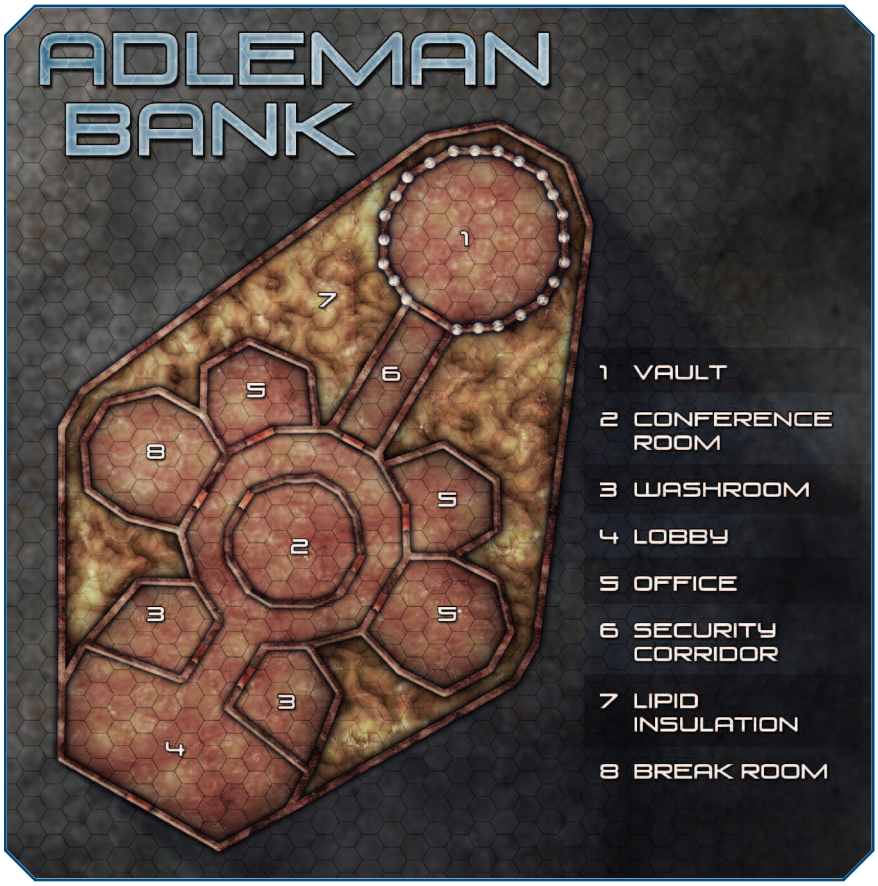
† Internal Fatigue Attack 1d (Area of Effect, 16 yards, +200%; Extended Duration, ×3, +20%; Emergencies Only, -30%; Hazard, Suffocation, +0%; Overhead, +30%; Persistent, +40%) [8].

‡ Internal Corrosion Attack 2d (Accessibility, Only In Security Corridor, -60%; Area of Effect, 16 yards, +200%; Cyclic, 2 cycles, 10-second cycles, +50%; Emergencies Only, -30%; Persistent, +40%; Respiratory Agent, +50%) [7].

§ Internal Crushing Attack 2d (Accessibility, Only In Security Corridor, -60%; Area of Effect, 16 yards, +200%; Double Knockback, +20%; Emergencies Only, -30%; No Blunt Trauma, -20%; No Wounding, -50%; Overheard, +30%; Persistent, +40%) [5].

¶ Includes +4 for Business Acumen.

If Dagomar could be rehabilitated, he could be a powerful ally. Alternatively, the stats provided could serve as the basis for an alternate benign living headquarters. Or, as a final switch, the heroes might acquire a "good" living building, only to discover it ***is*** *Adleman Bank – with his own agenda, and just as nasty as ever.*



Defense Measures

During the day, Dagomar opens his front door for anyone. At night, he only allows access to his security guards and registered clients needing to use the ATMs. No one is permitted entry into the security corridor without intent to visit the vault.

In order to gain admission into the vault, a client must be accompanied into the security corridor by a guard and an office worker, then granted clearance by Dagomar at the vault's entrance. Dagomar identifies registered clients with his photographic memory, his keen sense of smell, and voice recognition. As a final clearance measure, Dagomar probes the client's mind to confirm his identity.

Between its outer wall and inner chambers, Adleman Bank is surrounded by a lipid layer. Thickest near the security corridor and thinnest around the vault, the lipid insulation ranges from one to six yards in width. The ribcage that protects Dagomar's heart extends upward to add near-impenetrable reinforcement to the vault's wall, rendering any extra lipid around it superfluous. The lobby is the only area not protected by the lipid layer.

The layer is designed to delay break-in attempts. Even if a criminal is able to evade detection by Dagomar's acute senses, the biobuilding can still feel his walls being damaged and alert local authorities. By the time the lipid layer is breached, police will be on the scene. Thanks to Adleman's rapid regenerative abilities, any hole in his walls will heal within a few minutes, and major structural damage will heal within an hour.

If intruders make it inside, Dagomar activates his gas deterrents. Fetid digestive gases float up from his intestines, threatening to suffocate the intruders. Burglars who reach the security corridor then have to wrestle their way through the peristaltic contractions intended to expulse intruders from the passage.

As a last resort, Dagomar can spray powerful digestive acids through pores in the security corridor. These acids don't burn Adleman unless the surface layer of his flesh has been removed, and he can channel the acids to his esophageal tubes for drainage through subtle muscle movements.

Employees

Eleven employees work at Adleman Bank: two tellers in the lobby, three office workers, and six security guards. Two guards are on duty per eight-hour shift.

Keith Travis is the 34-years-old senior security guard. He has worked at Adleman Bank since its founding and is mistrustful of some of the newer guards, notably Antone and Tyson (see below). Keith is 6'3" tall and 170 lbs. He has a full beard and charcoal ponytail that earned him the nickname "Blackbeard." He has gained Dagomar's favor due to his loyalty over the years, even if Keith's motivation is to maintain steady employment to pay for his son's tuition.

Ingrid McPherson takes her guards duties very seriously – to a fascist degree. Grim-faced, 6' tall, and 155 lbs., she is easily the most intimidating guard. Her grey hair is knotted into two frayed braids that look like chains. Arrogant and 56 years old, she refuses to acknowledge Keith's authority and wants his position.

Tonia Powell, at 24 years of age, has only worked at Adleman Bank for six months. Standing 5'5" and 130 lbs., she doesn't look like the ideal choice for a guard, and her curly red hair, piercing blue eyes, and bubbly personality don't help. However, Tonia has over a decade of martial-arts training and wants to prove that she can handle any job that a big, strong man can do.

Antone Valenzuela, 32, has been a guard for two years. Swarthy and mustached, he is a charming gentleman who mostly keeps to himself. Frequently late or absent, Antone is barely holding onto his job. He only works at Adleman Bank to help mobsters launder money through the institution, hoping to one day be accepted into the mob and avenge the wrongful killing of his brother at the hands of cops.

Mason Hayes, 43, was built to be a guard. Standing 6'7" tall and weighing 195 lbs., he's just working to pay off his debts – debts as massive as his frame.

Tyson Rowland, 52, has served as a guard at Adleman bank for a year. Barrel-chested and silver-tongued, he is a professional grifter working his last con before he retires.

For another take on a villainous building, check out the watchtower in ***Creatures of the Night, Volume 5.***

At 5'6" and 167 lbs., Tyson doesn't exactly blend in with a crowd, but he earned his position as head of his group of conmen through decades of successful grifting.

Martin Benson, 28, is an office worker restricted to a wheelchair and forced to speak with a voice synthesizer due to a neurological disorder. Although Dagomar would never admit to it, he admires Martin's *joie de vivre* and complete lack of self-pity. Martin is the one person for whom Dagomar genuinely cares, and perhaps the one person who can get through to Adleman and help him heal.

Horace Watkins, 59, is the silver-maned senior office worker and the other employees' go-to guy. The elegant Jill Bridges, 42, occupies the third office. Jokester Matt Jefferson and loquacious Tammy Dalton are the tellers.

Mental Health

Unlike his many qualities, Dagomar's faults were not gengineered – they arose over time. They can largely be attributed to his upbringing and his envy of human beings. He is callous and sarcastic, possessing no empathy toward others; whatever their problems may be, at least they have legs. He puts his superior intellect to use bullying his employees and anyone who frustrates him.

Dagomar's antisocial, workaholic nature and scarred childhood have led to a developing psychosis. His photographic memory and advanced mental faculties place added strain on his mind, and he has no outlet for stress-release other than shouting at his employees. Lately, he has been sleeping less than he should in order to squeeze in more working hours, aggravating his condition. He experiences auditory hallucinations – voices whispering to him, leading to paranoid delusions and an abundance of conspiracy theories regarding his employees, clients, and business associates. The voices have begun urging him to commit acts of violence before his empire is taken away from him.

If Dagomar can be convinced to take a long vacation and seek help from a psychiatrist, he may recover.

Adventure Seeds

Adleman Bank can be treated both as an adventure location and as a character. He may play the part of a villain, an unreliable ally, or a wildcard to further complicate a situation. Story ideas involving banks have been thoroughly covered in popular culture; however, if the bank is both sentient and on the verge of a psychotic episode, an otherwise unexplored dynamic is added.

The Heist

Tyson Rowland has been casing Adleman Bank for a year and is finally ready to execute his plan. During the graveyard shift, while Dagomar sleeps, Tyson plans to subdue his fellow guard. His crew will then arrive with the getaway vehicle equipped with a radar jammer to prevent Dagomar from calling for help. Wearing gas masks and acid-resistant suits, the group of grifters will inject a muscle relaxant into the bank's sphincters to gain entry and into the security corridor to mollify its peristaltic contractions.

The PCs may take on the roles of local police who happen to be on patrol at the time of the heist, private investigators hired by Dagomar to track down the thieves, or even members of Tyson's crew – in which case, they should be allowed to plan how to pull off the heist.

For an added moral dilemma, there may be clients using the ATMs when the heist occurs, something that would throw a wrench into Tyson's plans. He doesn't want to kill anyone, but he didn't plan on having witnesses. Do his fellow grifters possess the same scruples?

Hostage Crisis

Dagomar snaps. Under the influence of the hallucinatory voices, he gives in to his delusions and takes hostages by holding his sphincters shut. His demands? To have his consciousness transferred into a human body, then granted immunity and transport to a distant land. This can be especially troubling if there are no means by which to transfer a consciousness.

Dagomar traps a client in the vault, a guard and an office worker in the security corridor, and any number of other clients and employees in his lobby and other chambers. He threatens to use his digestive acids and gases to kill the hostages if his demands are not meant.

The PCs might be part of a hostage negotiation team, SWAT operatives, or even hostages unlucky enough to be in the bank when he snapped. Dagomar may agree to a hostage exchange, allowing for the opportunity to get the heroes inside.

No Business Like Mob Business

Adleman doesn't realize that his security guard, Antone, has been helping the mob launder money through him for months. The police suspect that Adleman is the source of illegally transferred funds and set up a sting operation to catch the guilty parties.

Police Chief Jerome Kim takes command of the sting – Adleman publically embarrassed Kim in the past, and he wants revenge. Kim is convinced Dagomar is a knowing participant in the money laundering and is willing to plant evidence if needed.

Evelyn Moran, better known as Madame Moran, is the wasp-waisted head of the Moran Family mob. Though outwardly friendly, she is savagely protective of her "children."

A public police investigation would offend Dagomar, due to the implication that illegal activity has been going on inside him for months without his knowledge. By probing minds, he may learn the truth and kill the mobsters within him in a fit of rage – and incur the wrath of Madame Moran.

The PCs may be sting operatives infiltrating the mob, investigators forced to deal with the uncooperative bank, or mobsters seeking revenge against Dagomar. If the heroes work with police Chief Kim, how do they react when they learn that he planted evidence?

If Adleman is found guilty of either money laundering or murder, a difficult question is raised: How do you prosecute or arrest a building?

About the Author

Based in his hometown of Montreal, Canada, C.J. Miozzi is a geologist and published writer with a passion for art, fiction, and gaming. He is designer, layout editor, and supervising editor, and has over a decade of Game Mastering experience he wishes he could put on his résumé.

Better Living Through Pharmaceuticals

by Steven Marsh

GURPS Bio-Tech presents a number of drugs that remove afflictions, alter biochemistry, and provide a better way of life – or, conversely, a way to turn your enemies' brains into malleable jelly. Still, humanity's ingenuity in injecting and ingesting strange chemical compounds knows no bounds, and it's almost certain that new pharmaceuticals will continue to find their way on the market.

Here are some suggestions for new drugs you can add to your campaign; most of them expand or alter existing drugs in unusual ways. The GM should always carefully consider the impact of introducing any new drug into the campaign.

Capability-Enhancing Drugs

From an adventure-design standpoint, the ability to change and augment self or opposition is one of the more appealing aspects of altering one's biochemistry.

Algosinol (TL9)

Although classified as a capability enhancer, Algosinol is not a medication that most people would take willingly. While people can usually recommend the circumstances surrounding pain, the human mind is ill-equipped to remember actual pain (physical, mental, or otherwise); given the often-agonizing conditions that humans find themselves in, this is probably for the best. However, Algosinol allows the mind to "remember" past injuries and heartaches. (Scientists aren't sure if this is a true memory of the pain or a recreation based on what it recalls based on the event, but the effect on the body is the same regardless.)

Algosinol doesn't cause someone pain directly; rather, it creates conditions that makes the drug recipient susceptible to remembering past pain. Anyone seeking to take advantage of an Algosinol user may make a social interaction skill to remind him of past pain (Psychology, Interrogation, or the like). If this roll is successful, the victim recalls some past injury. This trauma of this incident is *exactly* the same as the original incident, only without the effect of the actual injury. (For guidelines on the effects of pain, see *Afflictions,* p. B428.) Algosinol lasts for (25 – HT) minutes. $100/dose, LC2.

How do you want to change yourself today? What could possibly go wrong?

Scroll-Lock (TL9)

Scroll-Lock is a "smart drug" tangentially related to Tempo (***GURPS Bio-Tech,*** p. 156), and may be a developmental step to that pharmaceutical. However, rather than speeding up the person's entire perception of time, it only augments the user's perception and language-processing abilities; it enhances the portion of the human brain that translates written words into cognitive thought. Each dose provides 1 character point that must be spent on Speed-Reading skill; the maximum dosage is eight (for 8 character points). If the user doesn't have the skill, he must use the points to gain Speed-Reading (an Average skill) at an appropriate level based on the number of doses he took. If he does have the skill, the temporary character points add to those in his existing skill, boosting it to a higher level. See p. B170 for costs.

The drug lasts (25 - HT)/4 hours. During this time, the user has the Bad Sight (Nearsighted) disadvantage (p. B123). If he already has Bad Sight (Nearsighted), then he either loses the ability to use glasses or contacts, or else he acquires Chronic Pain (Migraine; Mild; 2 hours; 9 or less) [-5]. (If he already suffers from migraines, then the frequency, interval, or severity increases.) The side effects last for 24 hours. $50/dose, LC4.

Adventure idea: The heroes need a witness to question for clues. Good news! There was a college library full of students – all potential witnesses. Bad news? Everyone was on Scroll-Lock; their eyesight is shot until the drug wears off.

Upspeed (TL^)

Upspeed causes the user to push his body to the extreme of human ability – and then it goes beyond that! A single dose of Upspeed gives the user the Altered Time Rate advantage (p. B38) for (25 - HT) minutes.

Most frighteningly, doses of Upspeed can be combined! Each additional dose bestows one extra level of Altered Time Rate – at a horrifying cost (see below).

Upspeed's side effects are similar to Tempo (***GURPS Bio-Tech,*** p. 156). After the drug wears off, the user loses 2d FP and 2 IQ and DX; this effect is doubled per dose (4d FP and 4 IQ and DX for two doses, 8d FP and 8 IQ and DX for three doses, etc.). Lost FP are recovered normally, while IQ and DX return at the rate of one per day.

In addition, even one dose of Upspeed has a long-term effect on human health. A single dose "ages" the user by one year, a double dose ages him by five years, a triple dose ages by 25 years, and so on. If the user's virtual age would call for an aging roll (p. B444), *each* dose of Upspeed inspires a new roll (p. B444); three doses would mean three rolls! Nearly all longevity drugs are powerless against the aging effects of Upspeed, but – at the GM's discretion – Stasine (see ***GURPS Bio-Tech,*** p. 159) might be effective.

Regardless of the effects on the human body, three doses of Upspeed push the limits of even the most cinematic campaigns; unless a campaign is exceptionally high-powered (for example, a super-powered campaign), the GM should rule that additional doses are fatal. $450/dose, LC1.

Up-Tempo

Whether Upspeed is an amplified version of Tempo or some new manifestation entirely is up to the GM. The two drugs are certainly related in effect, although Upspeed is obviously much more powerful. However, it could be that Tempo is merely a weaker form of Upspeed.

If the two are related, this opens up a number of adventure possibilities. First, someone using Pharmacy (Synthetic) could distill down sufficient quantities of Tempo to Upspeed, at -5 to the roll; normally, 20 doses of Tempo are required to distill down to one dose of Upspeed. Alternatively, someone using the same skill (at -3) could "water down" Upspeed to Tempo, turning one dose into five doses under normal conditions.

Neither use of the skill results in any "savings" to the person – it's still cheaper to buy Upspeed or Tempo in its pure form – although a sufficiently good result on the Pharmacy (Synthetic) roll may get the results fairly close. The real benefit for the illicit chemist is the ability to skirt legality classes: At LC1, Upspeed is fairly tightly controlled and regulated, while Tempo (LC2) is less so.

Espionage Drugs

There has long been a search for drugs that can alter human perceptions or otherwise tip the balance of spycraft's "great game." The possibilities of such pharmaceuticals have the world's greatest espionage agents both drooling at the prospects and fretting about the potential for use against their *own* agents.

Here is a broad class of drugs that can be used in a campaign. Note that widespread use of these drugs is enough to permanently alter a setting's flavor, in much the way that consumption of soma in Aldous Huxley's *Brave New World* influences much of the novel's history.

Memine (TL10)

Memine isn't a specific drug, but a *class* of drugs. Crediline (***GURPS Bio-Tech,*** p. 157) makes the user feel indiscriminately trusting. Memine-class drugs are all more targeted versions of Crediline; instead of trusting everyone, the consumer's perceptions are altered so that he only trusts a specific idea or pattern.

Some common Memine types include:

- *Bureaumemine:* This variant makes the user feel susceptible to the idea that an outside agency is the only way to solve either a specific problem (population control, personal safety, etc.) or *all* problems. Its most obvious use is to program the recipient into believing that the government is the group best able to resolve a specific or general problem, but it could easily be modified to instill a sense that any large organization is best able to accomplish a goal.
- *Theomemine:* This Memine compound makes the user susceptible to the instillation of religious beliefs – including atheism! Some ultra-tech religious organizations may unscrupulously use Theomemine to ensure their dogmatic teachings stick.
- *Xenomemine:* Someone under the effects of Xenomemine finds logical and trustworthy the idea that outsiders are to blame. General-paranoia Xenomemine is the most common variation of this drug, but it's possible to make Xenomemine that target specific groups; in general, the more specific or less different the group, the more difficult it is to create a suitable variant. (It's easier to create a Xenomemine variant that makes the user open to the idea of disliking nonhumans than it is to make him dislike residents of the borough next door).

All Memine drugs require a programming method to be effective; they do not spontaneously generate ideas and philosophies within their subjects. However, this need not be a calculated regimen; usually, any expression of ideas that trigger the Memine target is effective. For example, someone under the influence of Bureaumemine might find himself actively engaged by a political commercial calling for a stronger government program.

Similar to Crediline, the user must resist with a HT-3 roll, or otherwise suffer Euphoria (p. B428) and Gullibility (9), both *only* directed toward the Memine's ideas; however, the duration is for (25 - HT) *hours* (not minutes, as per Crediline).

For information on alternate memetics rules, see ***Big Media Memetics*** *from* ***Pyramid #3/15: Transhuman Space.*** *Those who would seek to influence public opinion (unscrupulously) would find Memine to be* ***very*** *useful.*

A long-term Memine regimen – six months or longer – can make the disadvantages "permanent" (until purchased away with character points). This may result in additional disadvantages relating to the Memine's purpose (such as Xenophobia, p. B150, for a long-term recipient of Xenomemine). Given the fact that targeted Memine could change the course of elections and otherwise greatly influence powerful people, Memine is tightly controlled. $120/dose; LC1.

Ultramemine (TL^)

This drug is like Memine, only the worldview it imparts is contained *within* the drug itself. It accomplishes this by biochemically imparting the same physiological imprint that the requested idea does. Ultramemine is generally less effective than regular Memine (HT roll to resist instead of HT-3), but the lack of required external stimulus makes it very attractive in some situations. $240/dose, LC1.

Chemical Ideas

Designing a Memine drug that targets a particular idea needs a Pharmacy (Synthetic) roll to create it if the specific variation is known. If it's unknown, it requires a Chemistry roll to come up with the right mixture (Psychology is a complementary roll). *Both* the Pharmacy (Synthetic) and Chemistry rolls are modified according to how complex or specialized the idea is (-1 to -8).

Longevity Drugs

The search for a "Fountain of Youth" has been a much-sought goal since the first human realized his days were numbered. ***GURPS Bio-Tech*** contains a number of drugs that extend the human lifespan, but there is much adventure potential for longevity drugs that don't work quite as expected. Here is one new possibility.

Tomoranow (TL^)

Tomoranow is similar to many longevity drugs (see ***GURPS Bio-Tech,*** p. 159) in its ability to thwart the physical effects of aging. For as long as it's taken, it bestows the Longevity advantage (p. B66). If any monthly doses are missed, it takes that number of months (up to 12) before Longevity is restored.

However, Tomoranow has one peculiar side effect – one that may not be obvious until many years after it hits the market. In effect, Tomoranow stretches the physical lifespan of the human body, at the expense of the mental side.

Long-term users of Tomoranow (those who use it for six months or more) discover that their memory is limited to about 75 years – extending backward from the user's present. This doesn't have much effect if the Tomoranow user is 80 (most people don't remember much from the first five years of their lives anyway). However – in the long term – this effect becomes more pronounced as the Tomoranow-user's lifespan extends; a 100-year-old wouldn't remember anything from his college years, a 125-year-old wouldn't remember anything before he turned 50, and so on.

Use of Tomoranow doesn't adversely affect most active skills; the act of using skills tends to "recreate" memories of those skills. Thus a 100-year-old Tomoranow user who learned to read at age 5 still knows how to read; since he's been using the skill his whole life, he still has plenty of learning-memories to draw on. However, lesser-used skills (GM's discretion) and skills whose learning can only be acquired once – say, a year-long on-planet study of an alien race – are in danger of being forgotten as the person gets older. The GM should assign a penalty to any skill roll for abilities acquired solely in a period of life outside the Tomoranow memory window, or which have not been improved within that memory window. As a rough guideline for the penalty, use the following for any skills acquired more than 75 years ago:

- No penalty: Skill used extensively within the past 75 years (daily).
- -1: Skill used frequently within the past 75 years (at least once a week).
- -3: Skill used occasionally within the past 75 years (at least once a month).
- -5: Skill used rarely within the past 75 years (at least once a year).
- -8: Skill used less often than once a year.
- No roll possible! Knowledge tapped is entirely outside the 75-year window.

If Tomoranow's side effects become known, it's possible the drug might be outlawed; it's dangerous to society having people who seemingly look within a normal human lifespan to have forgotten large and vital chunks of their lives. (Who would want to visit a doctor who has no recollection of medical school?) However, by the time the drug's adverse side effects are known – especially in settings without other longevity drugs – Tomoranow may be too firmly entrenched to be banned; regardless, its primary users would be wealthy and influential people, so something as trivial as "illegality" might be thwarted.

From a campaign standpoint, Tomoranow has the possibility of creating an odd-feeling setting in worlds where there are no better longevity drugs known; it would permit a campaign with truly long-lived humans, who recall *less* than most naturally aged people. This would also effectively cap personal first-hand knowledge at 75 years, and would probably result in a cottage industry of memory-re-creation methods for Tomoranow users (journals, holovids, and the like). Mnemosin (***GURPS Bio-Tech,*** p. 155) and other memory-enhancing drugs or treatments are ineffective at recalling memories lost to Tomoranow usage. $2,000/dose. LC3 (possibly LC2 if its side effects become known).

Adventure idea: The heroes visit a clique of powerful friends who've known each other for 100 years. A mystery unfolds where it's important to tell exactly how the group's friendship was forged. Eyewitness accounts are useless; everyone there is using Tomoranow.

Alien Immunosuppressants

The existence of alien biology can give rise to a new class of drugs designed solely for the purpose of facilitating human-alien interfacing (for example, connecting with alien biomecha – see pp. 4-11).

These drugs all assume that there's something distinctly *unusual* about alien biology, compared with the rest of Terran biology. If this isn't the case – and receiving a Martian needler arm is no different than getting a pig heart – then use the guidelines for xenotransplants from ***GURPS Bio-Tech*** (pp. 141-142). Conversely, not all humans may be compatible with alien implants; see *Cell Mates* (below) for guidelines.

Regardless, these drugs all build off the *Rejection and Immunosuppression* rules (***GURPS Bio-Tech,*** pp. 141-142). Each drug is specific to individual alien species; the Geever injection to allow Podmen grafts is different from the Geever regimen required for Frogmen implants.

Bio-tech aids for biomech bonding.

Xenoimmunosuppressant (TL7)

This drug enables the possibility of human/alien interfaces. It is potentially feasible at TL7, the same era that mundane immunosuppressants become available. (Of course, this assumes that alien biotissue is around to analyze and experiment on.)

Xenoimmunosuppresants remove the possibility of automatic rejection, instead permitting the normal HT modifiers for organ rejection (+2 for xenotransplant, +6 for no tissue matching). The drugs must be taken daily; receiving an alien implant and being on such a regimen gives the disadvantage Dependency (Immunosuppressants; Common; Daily) [-30]. $50/dose. LC3.

Firscon (TL9)

This drug tricks the recipient's body into believing it's human tissue (although not an exact match). It removes the +2 HT bonus for a xenotransplant. $200/dose, LC3.

Geever (TL10)

This drug removes all possibility of rejection for a specific alien implant, provided it's broadly compatible with the human host (see *Cell Mates,* below). The tissue recipient receives the disadvantage Dependency (Immunosuppressants; Common; Weekly) [-20]. $500/dose, LC3.

Rosetta (TL^)

Like Geever, this drug permits a transplant without the possibility of rejection. However, with Rosetta, specific alien implants can be grafted directly to human tissue, *regardless of compatibility.* If, in fact, the alien tissue *is* compatible with the human, then this is a one-time dosage; the recipient doesn't require a Dependency. Otherwise, he acquires the disadvantage Dependency (Immunosuppressants; Common; Weekly) [-20]. $5,000/dose, LC3.

About the Author

Steven Marsh is a freelance writer and editor. He lives in Indiana with his wife, Nikola Vrtis; together, they have bioengineered a new gamer, who is currently in development. For more details on his industry experience, read his *Random Thought Table* in this issue.

Cell Mates

In many tales of human/alien unions, there is a concern about finding "a match" – determining which humans would be good hosts or which aliens make good recipients for human tissues. In ***GURPS,*** this is represented by removing the +6 HT bonus for the lack of tissue matching – an important goal for any alien-human biological interactions. The technology required to remove this bonus depends on the assumptions for interspecies compatibility; to determine the complexity of xenotransplants, it can be helpful to visualize it in comparison with human transplant milestones.

At TL6, it's possible to tell human blood types in the ABO blood group system. Alien organic parts can interface with human biology at this TL if the compatibility is as "complex" as making sure the human recipient is part of a broad blood group.

By TL7, human blood and tissue testing is much more mature, with significant and nuanced differences detectable in human blood. If grafting on alien parts is as complex as determining whether a blood type is positive or negative (the Rh factor), then it's possible at this TL.

By TL8, "alien" part transplants are a reasonably mature medicine. If the science of matching alien parts is similar to (say) transplanting a bovine heart valve into a human, then similar science can be used.

With TL9 comes whole alien part transplants ("pig hearts for all!"), and at TL10 comes genetic engineering ("your own personalized pig heart!").

The GM can obviously structure the campaign however he wants regarding alien/human interfaces, but understanding the underlying scientific assumptions in matching human and alien tissue can reveal adventure possibilities. For example, if a xenotransplant requires expensive genetic matching, then in a modern-day setting it's really only possible in a first-world country; there's no hope for a kit-bashing garage scientist taking advantage of a found alien pod. Conversely, if grafting alien parts merely requires finding appropriate basic blood types, then it might be possible to have a hidden legacy Nazi Antarctic base with *biomecha!* (See pp. 4-10 for some ideas on creating living symbiotic battle armor.)

The Children of Inzanami

by J. Edward Tremlett

Report from Tombo Ltd. Cruiser Kimiko: 1-3-74
Location: *12946746-AAB, coded "Kumo-10"*
Gene-Ark Type: *Inzanami-5*
Project Inception: *-150 Standard Years*
Project Status: *Bad, possibly salvageable*
Notes: *The planet is a type-65, with a primarily methane atmosphere and high concentrations of group-6 elements. As reported, Izanagi Inc. created lightly structured, methane-breathing humanoids that derived sustenance from group-1 elements and enjoyed a moderate lifespan. All indications were that the physical form was perfect for the planet, and the first century was spent building infrastructure for the operation, after which the Kimiko launched.*

Unfortunately, while the instructional programming was fine, the devotional programming went offline just after the first century of activity – apparently a common problem with the I-5. Without direct motivation, the population suffered a schism between those who chose to obey the instructions and those who did not. Punitive measures from the "obey" group did not work, a power struggle emerged, and the wrong side won – about 50 years ago. Baseline humans have since become reviled as evil gods.

So when we landed, we received a poor welcome. We left before it became violent, thanks to the intervention of nonsuperstitious natives. We are now in orbit considering alternatives.

Recommendations: *The natives are intelligent, have created a materialistic civilization, and have no need for group-6 elements. There are clearly better-educated fractions of the society, some of whom have power. We believe we can persuade them to mine for us in exchange for non-harmful products.*

Failing that, the Gene Ark is still functioning and could be restarted if the current population has to be zeroed. This would require at least 100 years delay on the contract, though. No one here wants to go back to Earth empty-handed, or sleep for that long in orbit.

Please advise . . .

In the time of the First Great Expansion, when advances in bio-tech quickly outpaced accomplishments in fast space travel, genetic manipulation made the colonization of the solar system doable and affordable. It became possible to genetically change baseline humans enough to adapt them to any environment, and reverse the changes at any time. That eventually led to the creation of Seed Ships: slow-moving technological wonders that landed on Earthlike planets well ahead of colony sleeper ships, and artificially created life forms to thrive on them as safe sources of food and labor.

One company took the notion a step further by creating Gene Arks: wondrously advanced machines that set down on decidedly inhospitable worlds, and created humanoid workers, based on human DNA, to exploit them for interstellar commerce. The project was just barely legal, not subject to much governmental oversight, and fraught with troubles due to poorly constructed artificial intelligences. But the end result of that greed, sloth, and ambition is a galaxy teeming with life that owes its existence, culture, and roughly half of their genome to humanity.

This article presents the history, workings, and current situation of the now-infamous Gene Arks of Izanagi Inc. It is partially based on the history from a previous *Pyramid* article (*The Nectar Box,* from *Pyramid #3/12: Tech and Toys*). However, it can be inserted into any far-future campaign where advances in bio-tech massively outpaced faster-than-light travel, and humanity sent sleeper ships out to the stars, only to have their empire collapse once workable FTL came into being. The Gene Arks could also be used in ***GURPS Space, Ultra-Tech,*** or ***Transhuman Space,*** and ideas for campaigns and scenarios can be found at the end.

Phase One: Remote Genesis

At the time of the First Great Expansion, Izanagi Inc. was Takamatsu-Shimazu: a recent yet moderately powerful Japanese bio-tech outfit. They cut their teeth on biological scanners for deep-space probes. When the Icarus-class probes' telemetry came back to Earth, proving their proprietary technology was flawless, the company's future was all but secured.

The company used this success to leverage two important devices for every outgoing sublight, sleeper ship sent to colonize Earthlike planets. First, they supplied all biological scanners and probes for the ships. The devices provided the ship's AI with the data needed to determine whether the colony could put down on the targeted planet, or needed to find another world, while still a light-year away.

For information, inspiration, and ideas on initial steps into the cosmos, check out ***Pyramid #3/6: Space Colony Alpha.***

Less Human Than Human

Once Earth's megacorporations discovered how to mass-produce human-based life forms for labor, they realized that they would have to find ways to keep do-gooders and well-meaning governments from emancipating them. So their paid-for politicians and legal teams saw to it that a new status of life was created: the Corporate Being, which, though humanoid, and based on human DNA, was not more than 50% baseline human, and therefore not legally considered worthy of human rights.

Such Corporate Beings were the property of their creator. They could be ordered, manipulated, and used any way their creating company saw fit, so long as certain boundaries of "decency" were not crossed. But, as many lawyers at the time noted, "decency" meant very little after the first parsec out from Earth.

The megacorporations gave in on two concessions:

- While such beings could be created on the behalf of another, they could not be exterminated when no longer needed, except by the company that *originally* made them.
- Such beings could not be resold – merely given away.

Thus, when Inzanagi completed a contract for a company, and the planet was mined out, they asked their client if they still wanted the children of their Genetic Arks. They usually did, as wholescale slaughter didn't often appeal, and they had no desire to waste a cheap source of future labor. But if they didn't want the loose end, Inzanagi had the duty to humanely "zero" the population on their behalf.

Second, they installed secondary scanning systems that fired smaller probes at nearby, non-Earthlike planets, to determine their biological and geological makeup.

The plan at the time was to collect the incoming information from the secondary systems and sell it to mining consortiums, so they could send robotic planetary exploitation devices out with positive information about what was awaiting them. However, by the time the data from the sleeper ships started coming back to Earth, Takamatsu-Shimazu had absorbed several smaller, promising bio-tech companies, and become Izanagi Inc.: the world's leading provider of "genetic solutions."

Inzanagi Inc. still intended to sell the exclusive information, but with the proviso that the mining companies would be using Izanagi-produced bio-labor. The price would be high, but still significantly reduced from sending planetary exploitation devices, or setting up artificial environments for a sleeper crew. It also saved them from having to spend exorbitant prices on remote terraforming (which was highly unreliable at the time, and ran the risk of covering up, converting, or destroying whatever elements the contracting company wanted to get from the planet in the first place).

At the very least, using bio-labor created *in situ* saved the companies from having to pay for workers' salaries, insurance, and familial compensation should something go wrong, trillions of miles away. Rather than risk angering the powerful spacer unions, most companies kept their deals with Inzanagi Inc. low-key, and didn't inform the government as to the full extent of what they were doing when filing their outbound flight plans. So far as Ministry of Space Exploration knew, Inzanagi was just sending a probe out to prove that the information they'd collected from the sleeper ships was legit, just so no one could sue them for a super-costly mistake.

Phase Two: Alien Edens

Thus began the age of Genetic Arks: spaceships designed to land on uninhabitable but exploitable worlds; create sentient, human-based life forms that could thrive in those environments; and then encourage those life forms to exploit those worlds on behalf of companies Izanagi Inc. had contracted with.

Primitive by future standards, the Inzanami-class devices were technological wonders of their era. They landed on their designated planets, and determined the best biological life form to perform the contracted exploitation. Their forced-growth exo-wombs then switched on, producing a small, quickly reproducing "mayfly" test group to see if the chosen life form could thrive enough in the environment to reproduce and follow holographic instructions. After producing three relatively healthy generations, and passing successive intelligence tests, the test group was humanely dispatched – "zeroed" – and analyzed in the field for study.

The true wonder would then begin. The 1,000 wombs of the ship thundered into life, producing a suitably diverse first group of fully grown adults. Their minds were programmed with a simple oral language, the information they would need to survive, and a religion that emphasized the need to follow the orders of "God" – a holographic projection of the AI, who looked human, and had a name and appearance based on ancient Japanese mythology. Much later versions of the probe would include the genetic predisposition to obey such beings without question, but the earlier engineers had been confident the holographic interfaces would be sufficiently commanding.

Once the first group was done, they were awakened, and told by "God" to go forward, away from the probe, and multiply. Instructed to consider the probe "taboo," they would walk through their first steps as a people, hopefully proving that long-term physical and societal viability were possible. "God" could always appear again if needed, either to enforce its authority, or make any needed changes to the society during that critical time. If the life forms proved poorly made, they could be zeroed, and the process started once again from scratch.

When the first successful generation's children came of age, the god would appear again and demand that the smartest and healthiest should be presented unto him, back at the probe.

Never board a non-FTL sleeper ship. When your homeworld develops FTL technology, you'll become a cultural curiosity.

Artificial Incompetence

The Inzanami-class genetic arks were technological miracles, for their time, but no miracle is perfect. Izanagi Inc. had to contract out for their computers, and the company they relied on to create the ships' AIs – Idoru – was eventually revealed to be fond of cutting corners in order to deliver its contracts on time. Given the legally questionable nature of Izanagi's offworld activities, Idoru's people felt they could get away with it, but their willful incompetence did not pass unnoticed. Indeed, Izanagi might have eventually sued them, had the Great Sundering not mooted such things for 154 standard years.

Thankfully, the biological scanners, genetic ordering devices, and exo-wombs could operate independently of the AI, if need be. However, having a fully functioning and competent AI was essential to the mission's overall success. Keeping in long-range contact with the contracting company was not always necessary, but without a "god" to set the life forms straight, or zero them out, they might eventually forget their deities and forgo any mining or construction activities. Worse, they could degenerate into primitive warring camps, or, conversely, start making key advances, and become an independent society in their own right.

As the Great Sundering went on, and the contracts failed to make contact, many of the probes' AIs eventually failed, leaving the life forms to their own devices. In some cases, enough positive reinforcement had been given to keep the society on a straight and productive path. In others, chance, chaos, and entropy took their toll, and scores of myriad, unexpected results took shape.

These lucky few were shown "the mysteries": simple mining and construction techniques, which, once practiced for a generation, would be buttressed by more complex things in the next, and so on. Eventually, an almost-priestly class of leaders would develop, whose authority could be backed up by occasional appearances of the god, if needed.

If everything went to plan, within a century or two, the life forms would be both numerous and well-disciplined. They would be capable of building simple but stable structures for their unseen masters, and able to procure samples of whatever materials had brought their owners to the planet. In the meantime, the contracted company would have sent a sleeper ship of their own in order to take charge of things.

Once the sleeper crew arrived and awoke, the AI would make contact, and inform the crew of conditions on the ground. It would also appear to the life forms as the "god" and inform them that other gods were soon to arrive, so as to pave the way for the company's representatives' interactions with their "children." Mining operations could then commence in full, with the life forms acting either as sole labor, or alongside human or robotic workers.

It was a glorious thing when it worked according to plan, which, sadly, often did not happen. On the occasion of the activation of the 450th contract, Izanagi Inc.'s engineers estimated that only 55% of their probes functioned "adequately," with any failures in the plan being due to unforeseen factors that could not be corrected by the workforce or the AI, like meteor strikes, solar flares, or severe environmental hazards. In 25%, the AI made mistakes that caused serious genetic or societal setbacks, requiring the contracting company to wait while the workforces were recreated. The final 20% were total losses due to catastrophic failures on behalf of the AI or the Gene Ark's equipment.

Such a poor rate of success would have bankrupted a company with any serious competitor. (Given time, one might have arrived.) But shortly after that tally, and the launch of the 1050th Inzanami-class probe (the new series 8), warp-space FTL drives were finally developed. Now that a journey that once took hundreds of years could be done in months, the social and economic landscape of humanity's space empire went head-over-tails, and the Great Sundering broke that empire into dozens of hostile pieces.

By the time some semblance of order was restored (almost a century and a half later), Izanagi Inc. was dust. Like many of the pre-Sundering megacorps, almost all information about the company's doings was lost in the waves of conflict, and any of its outstanding contracts were effectively void.

But the Inzanami probes were still out there, operating as instructed, whether anyone was coming for them or not.

Phase Three: New Testaments

In the aftermath of the Great Sundering, two important developments took place that brought the pre-Sundering activities of Izanagi Inc. to light.

First, the various splinters of the once-united human empire started to explore their environs, the better to lay claim to territory before their nearest neighbors could. As they reached out, they often found "seed worlds" where planetary exploitation devices, artificial environments, and remote terraforming lattices had been set up and never rendezvoused with by their owners. Most nascent empires took a "finders keepers" approach to these lost objects, and claimed them for their own.

Because of these early discoveries, a cosmic scavenger hunt began, starting from Earth. Numerous companies were formed with the express purpose of locating sublight deep-space probes and construction projects, and either taking control or striping them down for salable parts – regardless of whose territory they were currently in. Various groups followed "treasure maps" through space to find lost probes, missing stations, tech and weapons caches, and colonies no one had heard from in over 150 years.

No matter how advanced civilizations get, cost-cutting bureaucrats are likely. Tweak your utopian plans accordingly.

Inzanami-Class Gene Arks

A veritable – if somewhat wonky – wonder of its age, the Gene Ark comes from a time when the predominant civilization of Earth had reached a an exceptionally high level of technology when it came to bio-tech matters, but was still unable to make ships capable of going more than 50% the speed of light. Now that travel through warpspace is possible, the need and desire to create bio-labor to prepare inhospitable planets for colonization and exploitation no longer exists. Humans are more than willing to be genetically modified to live and work in such environments, so long as they are adequately compensated. Furthermore, to most humans of the post-Sundering era, the time of Corporate Beings is looked upon with revulsion, disgust, and denial.

The Gene Arks had highly advanced biological and geological scanning arrays, both onboard and in a series of stationary satellites that would be launched prior to planetfall. The satellites also maintained communications back to Earth, though they were dependent on the AI. Izanagi Inc. did not want any automated satellites or beacons informing others of what they were up to; if the AI went down, so did the satellite array.

Each ark carried enough genetic material to create up to 10 batches of 1,000 life forms each if needed; 1,000 force-growth exo-wombs; and the ability to mentally program those life forms with information, memories, and personalities. The arks also had two kinds of extremely small hover-bots: one used for observation, genetic analysis, and communications with the life forms, and another for offensive purposes.

The offensive bots were designed to painlessly kill with swift-acting neurotoxins, genetically tailored to either the life forms made by the ark, or the biologies of scanned beings. If the AI had to uphold taboos, zero the population, or defend it from outsiders, these bots would be employed. They generally acted through dermal contact, but could make needles capable of piercing almost any armor. The neurotoxin allowed no resistance roll, no delay, and enough toxic damage over three seconds to kill almost anything instantly.

As previously mentioned, the AIs had a tendency to break down over time. They rarely had problems on the journey out, and were able to create up to three seed batches with no difficulty, but monitoring the civilization while waiting for the right moment to signal the contracting company was what tended to kill them. Series 1-3 had an average post-genesis life expectancy of between 50 and 150 standard years, 4-7 could go from 100 to 250, and those few series 8 that launched before the Great Sundering could last up to 400 years before data fragmentation sent them into memory loops, personality crises, or cascade failures. The genetic scanners and creators had backup systems and redundancies, but the AI did not.

In some cases, the maps were pieced together legally, through bidding on lost companies' remaining information. In other cases, the information was stolen.

Tengu Collections outbid several other "salvage dogs" for the rights to find the remaining Inzanami-class probes, based on what little was recovered from Izanagi Inc.'s servers. Undaunted by the vast distances and many unknowns, the collection agency started methodically tracking down the probes, starting with those closest to Earth.

Within five years, both sides discovered numerous inhospitable planets that had been inhabited by the Inzanami probes. Some of those were graveyards, littered with humanoid skeletons with a long-dead Gene Ark as the headstone. Others were peopled by human-like primitives that lacked the basic rudiments of civilization, but spoke human languages well enough to call their visitors "sky gods," and ask if they had come for the great metal "taboo" on the other side of the planet. Getting more details was difficult, as they either attacked their deities, or ran from them, and the "taboo" was long past the ability to explain what had gone wrong.

But about half of those planets had turned into successful, if still primitive, civilizations who revered the humans who came among them. They were eager to show their visitors all they had built, and the many treasures they had brought up from under the ground for them. They also wanted to know what they were supposed to do now.

Still others had become full-fledged civilizations, possessing literature, art, and science. Some of these had turned from their religions regarding the gods from the sky, though the more learned among them were fascinated at how much their visitors resembled the old pictures and prophecies. On some worlds, the appearance of humans caused superstitious throwbacks and mystics to call for the upheaval of the modern, and a return to older, simpler ways. Some human expeditions actually felt ashamed to have caused such trouble, and left before things got worse.

Functioning AIs were a rarity. In most cases, the ships were powerless hulks whose memory banks were so far gone they couldn't even be brought back online when recharged. On the rare occasion when an AI was still working, after all that time, it was either stuck in a loop, waiting for contact with the contracting company, or so screwy that it had created a fearful populace – uncertain what new instructions their mad "god" would make that day. Some could be repaired with advanced technology, but some had to be deactivated before they did something drastic, like zero the population out of mechanical spite.

Adventure idea: The "derelict" ship the heroes are exploring is, in fact, harboring a malfunctioning AI control mechanism. The investigators' poking awakens it, and the AI destroys the heroes' vessel. The AI is the only one who can run the craft, and the heroes need to negotiate with, convince, or threaten it if they're to have any shot at getting home.

Once word got back to Earth, the new government – shocked but not surprised at the morally questionable things the former megacorporation had been up to – declared the seeded planets off-limits to exploitation. The various ministries began to create plans to send naval cruisers to protect these worlds, and dispatch "re-educational" missions to the more civilized ones, to convince the natives that humans are not gods, so they might develop unhindered.

However, the government could change in the next election cycle, and the party in opposition has different ideas on what should be done. The chief issue is the legitimately purchased information of Tengu Collections – owned by the daughter-in-law of the opposition party's head. The fact that it was made void by the stroke of a well-meaning pen has rankled them quite a bit.

That's just Earth, though. Across the galaxy, other empires and kingdoms are not all as high-minded. Some consider those worlds and their populations to be theirs to exploit as they see fit. Others consider them tragic victims of human greed, but aren't in a position to protect them from wildcats, pirates, alien raiders, or other companies intent on finishing what Izanagi Inc. started, centuries ago. Reports are already coming in of Inzanami planets found scoured clean of life and resources, and specially bred slaves appearing in black markets (perhaps by the Providers; see *Close Encounters of the Unwanted Kind* in *Pyramid #3/15: Space Exploration*).

What future the children of the Inzanami-class Gene Arks have is up to them, and the kindness or avarice of those who find their civilizations. One can only hope that some sense of human decency will carry the day.

Phase Four: Modern Prophets

The aftermath of the Inzanami-class probes presents a number of campaign opportunities for the GM to exploit in bio-tech adventures. It can form the basis of a game world or an intergalactic treasure hunt, be an interesting diversion in a larger campaign, present an ancient mystery to solve, or give the adventurers something to protect, or ruthlessly exploit. It can also provide the background for a bio-engineered society on a planet that's anything but Earthlike, if the players want to have a really interesting roleplaying experience.

Raiders of the Lost God

There's gold in them there rocky planets, but not quite how you would figure. The PCs are daredevil galactic archaeologists in search of the last working Series-8 Inzanami AI, which is reputed to be on the Northern galactic arm, somewhere. They have a partial map, a fast and unremarkable ship, and an "understanding" with some questionable mercenaries their mysterious backer set them up with. Other than that, it's the usual "attempt to locate a single star in a cluster of millions," right?

Oh no – it's *never* that simple. Turns out the map was stolen from Tengu Collections. It also turns out their backer is an operative from the party in power, who wants the AI for official purposes, and the mercenaries are government operatives there to ensure his will is done. Worse, there are aliens occupying that area of space, and they don't like humans, not one bit.

Can the adventurers find the star without being tracked by Tengu, boarded by pirates, or blown to flinders by flying saucers? Can they keep their "bodyguards" from taking over the ship? Provided they do all that, what awaits them on the planet: subservient humanoids run by a friendly god, or war? Will anyone there be happy to lose their god for science or politics? Will the AI come willingly, or unleash killer bots on them? Can they make it back to Earth alive?

Save the Men of the Sand

The PCs are members of a radical humanitarian organization that seeks to stop advanced races from colonizing and exploiting less-developed worlds. Word has come to them that a wildcat prospecting company has set its sights on a small, nearly airless desert planet that's rich in group-6 elements, and is one of the Inzanami worlds. This one is peopled by sand-dwelling beings well-adapted to the harsh conditions there, who believe that humans are their long-lost gods.

The problem is that the planet's in the Exarch Confederacy, and therefore at the mercy of its system lord – who's being well-paid to look the other way. Can the heroes stop the exploitation of the planet at the hand of the prospectors, without access to ship-to-ship weaponry and no backup from Earth? Will they have to take lives to save them? Which group of "gods" will the sand-dwellers follow?

Old Ways, New Gods

The PCs are Gene-Ark-created life forms, living a primitive but comfortable existence. Like their parents before them, the people heed the words of their wise god, Omoikane, and build new shelters and mines so that when the other gods arrive, perhaps in three generations' time, they will be ready to serve them. Some speak of the gods being false – merely shadows cast from the Iron Wall None May Approach – but such persons are quickly scolded and ostracized for a time.

But something is changing. New lights appear in the sky, and the god does not choose to explain them. Then the lights become iron walls, like the one none may approach, and gods walk out. But they are not the gods the people were promised: They are brutal, speak a strange language the people can just barely understand, and want to know where the "Uraninite" is. They promise killing and pain if this is not brought before them.

Where is Omoikane? He has fallen silent. Those who do not believe in him are all too willing to help these new and terrible gods, even if it means hurting their friends and family. The people have never needed war, before – never needed to hurt another – but now they do.

The decision is made. The heroes are the strongest. They will travel to the Iron Wall None May Approach and beg Omoikane for help. The journey may kill them. The New Gods may catch them. But if this is, as the elders say, a test of their faith, then they must prove themselves worthy.

About the Author

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

Random Thought Table

Ooze and Ahs

by Steven Marsh, *Pyramid* Editor

Let's answer one of the fundamental questions of the universe:

Is bio-tech "icky"? (If so, what makes it icky?)

Here, in true point/counterpoint fashion, we make our case.

Bio-Tech Is Icky

I have long personally believed that what happens behind closed doors with consenting adults is – for the most part – perfectly fine. However, to me, the key to that idea is "behind closed doors." Really, I don't like thinking about almost any private human interactions that don't involve me – and even some of those I don't like thinking too strongly about.

Humans have lots of taboos, most of them involving bodily functions, bodily excretions, and . . . well, icky bits. But almost without exception, these "icky bits" are human bodies doing what human bodies do. We have to get rid of waste, reproduce, store excess energy if we eat more than we use.

Still, this doesn't change the fact that they're icky – even outside the realm of taboo. For example, to the West, watching humans bleed isn't frowned upon much; if it was, then violent action movies wouldn't form one of the most popular cinematic genres. Still, this lack of aversion to seeing human blood isn't universal, and it's peculiar.

Consider the following: Seeing human blood isn't taboo. Human teeth aren't taboo. But almost no one would willingly watch a graphic video of an invasive dental operation; the "ick" factor would be through the roof.

So where does bio-tech's "ick" come from?

Taboo

I think we've already covered this, but just to be clear – there are some things humans don't talk about involving bodily functions, and bio-tech that looks like it's performing or undergoing such functions invokes our primal "ick" factors. But we're not going to talk about that.

Personification

Humans like to see themselves in the world around them. It explains the reason we like to see human faces in the myriad of photos at the "Happy Chair Is Happy" website (**objects.icanhascheezburger.com**) and many other Internet memes making the rounds. So when we interact with technology, we often "personify" it: "My computer is unhappy," "my car hates starting up first thing in the morning," or "wow, that blender sounds really angry."

By being animate and . . . well, *alive,* bio-tech is often easier to personify. This can more readily invoke our taboo reactions ("Why is it making that *noise?!*"). It also thwarts our expectations.

Expectations

Bio-tech – especially as presented in popular culture – often elicits a reaction because it doesn't perform by the rules as expected. This thwarting of expectations can lead to ick.

A few weeks ago, I visited a pick-it-yourself apple farm in Michigan. This wasn't my first choice – I believe apples come in plastic bags at the grocery store, as God intended – but it was a pleasant enough day and I enjoyed seeing where apples really come from. There was something that felt inherently "right" about plucking an apple off a tree and immediately eating it.

However, this is because the tree conformed to my expectations of what an apple tree "should" do. If, instead of dangling an apple enticingly off a brown branch, it belched the apple up through a flexible fleshy tunnel in the center of the tree, I would be disturbed – because the tree didn't adhere to my expectations. (If it was able to "aim" the apple into my hand, it would be personifying as well, which would increase the ickiness.)

So if a bio-tech gun doesn't shoot a projectile like a traditional gun, but rather sends out a tentacled spinner to inflict damage at range (retracting when done), that's icky because it's not performing to our expectations of what a gun "should" be.

"All things scabbed and ulcerous, all pox both great and small / Putrid, foul, and gangrenous, the Lord God made them all." – Monty Python, "All Things Dull and Ugly"

Juxtaposition

Finally, I suspect that much of bio-tech's "ick" comes from juxtaposition. I already mentioned the juxtaposition of blood and teeth being a significant ick factor for most folks. Similarly, most people like babies, and there's a significant percentage of humanity that enjoys looking at female torsos. However, for many people – especially in the United States – the idea of breastfeeding is an icky abomination. I suspect this is because many folks have been taught that the idea that babies and bosoms are two separate ideas (one innocent, one sexual); the mental juxtaposition of the two makes such folks uncomfortable.

As an aside, *Babies & Bosoms* would make a great name for a small-press RPG – maybe about social climbing in a breastfeeding support group.

Anyway, bio-tech – especially in popular fiction – often encourages the ickiness of juxtaposition. A bunny-looking thing is cute, and an acid-spraying weapon isn't particularly nasty, but combine the two into a fuzzy ichor-dripping weapon, and the juxtaposition raises its ickiness.

Bio-Tech Isn't Icky

Nonetheless, biology isn't as icky as we think – and neither is there reason to think bio-tech would be.

What are some reasons that bio-tech would not make us squeamish?

Most Life Is Clean

Piles of rotting leaves notwithstanding (and even a compost pile isn't all that bad), most plant life is humanity's ideal of clean. Similarly, most mobile life on our planet is made up of insects. While many people aren't particularly fond of our world's tinier life forms (I believe my wife's primary reason for getting married was to have someone on call 24/7 to take care of spiders), on the whole, they're fairly clean and efficient creatures. Even during a massive ant infestation in our kitchen, I don't say, "Look at the piles of ant poop!"

It's reasonable to believe that – if widespread bio-tech finds a place among humanity's toolbox – we're going to use the smallest, cleanest forms we can get away with. Plant life is likely to be widely used, and a whole mess of insects are a more likely choice for "home cleaning bio-tech" than the Flintstones' genetically engineered mini-elephant.

Bio-Tech Is Reinable

Even if larger bio-tech becomes more widely available, it's quite possible that we can contain or cordon off the ickier aspects. A fair number of humans are the product of some form of childbirth, but humanity has generally ensured that the ickier parts of being born are hidden in hospitals or homes. All humans excrete, but we've figured out a way to rein in that aspect of our biology. Really, except for thongs and the occasional elevator audible, most of humanity's ickier aspects have been controlled.

Similarly, it's entirely likely that humanity will figure out how to control the aspects of bio-tech it finds objectionable. This might be accomplished via mundane technological means (you can buy diapers for horses, so it's likely they'll make diapers for *anything* that needs them in the future). Alternatively, it's entirely possible that scientists will devise bio-mechanical means of dealing with bio-mechanical problems – roving packs of manure-eating prairie dogs might be devised to keep the problems of the megahorses in check.

Bio-Tech Is Trainable

In addition, that which is icky about bio-technology can possibly be trained away into something manageable. When you think about it, bloodhounds are really sophisticated olfactory sensors hooked up to a keen analytical computer – one that can be trained to keep its waste output in check. It seems logical to posit that many elements of bio-tech that humanity might find icky can just as easily be contained by training the tech to avoid doing those things in front of us. Sure, it may not be foolproof, but having a service dog pee on you is no more obnoxious than having the gas cap of your car cover you with road grime.

Bio-Tech Is Tech

When people think "ultra-tech," one of the first images that pops in most folks' heads are gleaming shiny chrome constructs, bereft of any flaws or obnoxious, icky elements.

Sure, the iPad is "tech"; it's shiny, near-featureless, and glows with an elegance of design-meeting-function that totally makes it worth a half-month's mortgage payment. But, really, it's a computer. And so is the grinding noisy box that sits on my floor, a black desktop tower that grudgingly accomplishes its tasks while whirring and pulsing and chugging on optical discs. It routinely generates tennis-ball-sized dust bunnies in its chassis, and it puts out enough noise that I frequently keep a blanket on it to keep its obnoxious noise levels from making me as deaf as a punk rocker. It is *not* sexy.

So when comparing the iPad to a pulsing, belching compu-slug that communicates via slime and pheromones, it's easy to see where the iPad could come out ahead. (Having said that, I can already see my inbox filling with comments wondering if they can preorder a compu-slug.) But comparing my giant noisy computer desktop with a discreet, clean, symbiotic chitinous blob that rests just below my shirt line and can communicate with me via brain impulses? I'd pay careful consideration to the blob.

Technology covers shiny things: superconductor trains, Segways, and chrome-covered kitchen appliances. But it also covers the noisy, smelly diesel-powered burrower; or the five-year-old oil-leaking SUV; or the musty fiberglass insulation in the attic.

So it goes with bio-tech. Pharmaceuticals and nanotechnology – while potentially disturbing in their implications – are both usually low on the "ick" factor. Insect-like armor and biological grafts are ickier, and Gigeresque alien constructs with fluids and proboscises are even higher. However, I would gladly share my yard with a grass-eating two-headed sheep if it meant never having to endure the noise and fumes of a two-stroke lawnmower again.

About the Editor

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

Odds and Ends

Killing the Golden Mechagoose

You've introduced some kind of hot new bio-tech into the campaign world. How do you get *rid* of it?

The most obvious way is via another biological method. If all models of the bio-tech succumb to some strange disease, then the problematic life form is no more. Even if specimens are quarantined, they're still endangered – and even if they're safely in a clean room, they can't cause mischief in a campaign.

The danger of infectious disease isn't too far-fetched. Dutch elm disease almost wiped its target tree out, and commercial bananas – all being genetically identical – are presently endangered by several ailments. To increase realism (and leave open the possibility of employing this plot point in the future), it can be useful to point out the genetic similarity of all the campaign's organic technology; if there's a universal "X factor" that makes tech useful, then this same factor can be the weakness that allows them to be wiped out.

As another possibility, perhaps environmental factors no longer make bio-tech feasible. This can be any number of elements:

- The decline of the ozone layer.
- The increase of background radiation in the world, perhaps by increased nuclear radiation (or, more extremely, atomic war).
- Increase in global greenhouse gases.
- Heightened solar flare activity (which might not kill the bio-tech, but could make it so unreliable as to only be used in limited circumstances).

As a final possibility, bio-tech might succumb not because of any weakness on its part, but by weakness in another part of the chain. In the same way that gas-powered cars may still be fully functional but useless in a world without gasoline, so too might a biomecha unit shrivel up and die if the global supply of nomnom dries up.

Rushing willy-nilly into the future without giving deep thought to the influences of biotechnology in the way we treat each other, and the impact it makes on social behavior, would be foolish indeed.

– Suzanne Fields

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