GURPS® Fourth Edition

Template Toolkit™ 2
Races



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Introduction

Nonhuman races have been in ***GURPS*** from the start. The original edition of ***GURPS Fantasy*** (1986) presented dwarves, elves, orcs, and other fantasy races of Yrth; ***GURPS Banestorm*** (2005) still has them. Many advantages and disadvantages are now classed as "exotic" or "supernatural," meaning they don't occur in standard human beings but may be found in other races – and both racial templates and meta-traits are intended for use in describing such races. The ***Basic Set*** has two chapters on templates: one on how players should use them (pp. B258-263) and one on how GMs can design them (pp. B445-454).

But there's a lot more to be said about templates! ***GURPS Template Toolkit 1: Characters*** spent 48 pages on occupational, dramatic, and cultural templates and lenses for individual characters. This book continues the job by bringing the same level of detail to racial templates. Here you'll find guidelines for creating templates for all sorts of nonhumans, supplemented by discussions of meta-traits and features that such beings could have; a few new and modified traits; and some more detailed game mechanics on relevant topics.

Using This Book

If you're a GM using this supplement for the first time, read Chapter 1 closely for information about racial templates in general and the different types of "races." If you haven't seen templates before, look at the end of Chapter 4, and then at Appendix B, which has several. Skim Chapters 2 and 3, to get an idea of what's where, and then go to Chapter 4, which discusses how to use templates in a campaign. When you're ready to create your own templates, go back through Chapters 1-3, pinning down all the details you need for each template.

If you're a player choosing a racial template for your character, skim the first three chapters – but search through Chapter 4 for everything that applies to your character concept.

About *GURPS*

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Rules and statistics in this book are specifically for the ***GURPS Basic Set,*** *Fourth Edition.* Page references that begin with B refer to that book, not this one.

Publication History

This is the first edition of ***GURPS Template Toolkit 2: Races.*** Many existing ***GURPS*** supplements have racial templates for various sorts of beings; e.g., biologically created or modified species in ***GURPS Bio-Tech,*** fantastic races in ***GURPS Fantasy,*** monsters in ***GURPS Horror*** and ***GURPS Zombies,*** and robots in ***GURPS Ultra-Tech.*** This book borrows from them all – but puts all those borrowings into a comprehensive framework, with a lot of new material.

Racial traits in this work come from the ***GURPS Basic Set;*** from ***GURPS Powers;*** and from ***GURPS Power-Ups 2: Perks*** and ***GURPS Power-Ups 6: Quirks.*** Traits from other supplements, along with a few new traits, appear in Appendix A.

About the Author

William H. Stoddard lives in Riverside, California, with his wife, their cat, an uncertain number of computers, and about 100 shelf feet of books. Both the books and the computers contribute to his hobby of doing research, which has been a big help in writing ***GURPS*** books. His first one, ***GURPS Steampunk,*** appeared in 2000; since then he has written, co-written, or compiled more than two dozen books for ***GURPS.***

Chapter One
Racial Templates and Meta-Traits

It's perfectly possible to play ***GURPS*** without "races." In a present-day action campaign, all the heroes will be human beings, and so will everyone they encounter, from their arch-nemesis to the convenience-store clerk who sells them batteries. The same is true in historical campaigns, whether realistic or swashbuckling, and often in alternate history or near-future technothrillers.

But a lot of roleplaying campaigns are more exotic – and one way of making a campaign exotic is to have characters who aren't human, such as elves or robots. The protagonists are likely to encounter such beings; they may even *be* such beings. Racial templates provide a systematic way of describing nonhumans. If you're a GM, they're a tool for defining your setting; if you're a player, they provide options for creating your character.

And a campaign need not be exotic to use racial templates. A template might define an animal's species or a vehicle's model, if the GM prefers to treat such things as fully realized NPCs – especially if they're likely to be Allies. See Appendix B for examples.

What Are Racial Templates?

Human beings are the baseline in ***GURPS.*** They have a specific form and specific capabilities, defined in the rules in great detail. But none of this costs any character points! Implicitly, there's a "human" racial template – but its point cost is 0, and it isn't shown on character sheets.

Nonhuman beings have different traits, some of which have nonzero point values, positive or negative. Simply *being* a nonhuman often has a point value. In most settings, nonhumans fall into distinct types, each worth a certain number of points and having a certain list of traits. A *racial template* is a definition of one of these types. Each template has a distinctive name, and can be represented on a character sheet simply by its name and point value; all the traits that go into the template are "included by reference," as if they were all spelled out.

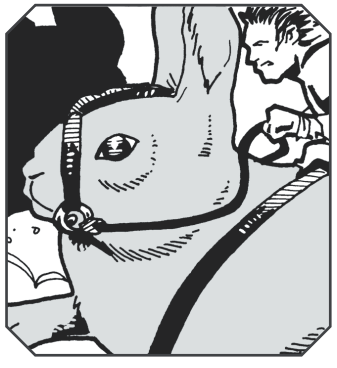
Racial templates aren't the only way to describe nonhuman entities. Depending on their role in a campaign, there are other options.

Alternatives: Simplified Statistics

Some nonhumans aren't usually treated as characters, because they don't really have personalities. They don't get full character sheets, but more compact sets of statistics that make it clear what adventurers can do with them – or what they can do *to* adventurers. Examples are creature statistics (for animals and sometimes plants) and vehicle statistics. In special cases, these can be expanded into full character sheets; see *Animals* (p. 6) and *Vehicles* (p. 7).

Alternatives: No Statistics

Sometimes an individual appears in the campaign but doesn't have a character sheet or fully specified abilities. Such characters don't need racial templates, even if they're described as belonging to some race.



Patrons

Very powerful Patrons (pp. B72-74) may have effectively unlimited point costs; for example, ultra-powerful individuals or true gods. Such beings don't need character sheets; the GM is always free to come up with a new ability that fits the basic character concept. Not having statistics, such Patrons don't have racial templates, either, though they may be given "racial" labels such as *primordial entity* or *god*.

Enemies

The rules (p. B135) don't explicitly say so, but it makes sense that an ultra-powerful individual or a true god might be *hostile* to a hero (as Hera was to Heracles), and could be bought as an Enemy for -30 or -40 points, with GM approval. As with a Patron, such an Enemy has no defined racial template.

Contacts

Contacts (pp. B44-45) serve primarily as sources of information, defined by minimal statistics: One skill at an effective level, plus a degree of reliability. Computers and infomorphs can play this role; so can spirits, which count as having "supernatural talents." They don't need character sheets or racial templates for this.

Alternatives: Unique Beings

Some characters with exotic or supernatural traits are one of a kind: supers, unique monsters, prototypes of machines or synthetic life forms, and so on. They may have full character sheets, but their uniqueness means there's no clear line between *individual* and *racial* traits for them.

This can change, though, if beings with similar traits appear – or if characters who can copy another character's form exist (*Shapeshifting,* pp. 38-39). It may be useful to decide which special traits belong to such an entity's implicit "racial template," and keep that information handy for later use.

Character vs. Racial Templates

Both racial and character templates are trait lists, but the concepts otherwise share little but the word "template." The *GM* generally decides racial traits (for exceptions, see *Player-Designed Races,* p. 37). A race's traits are a feature of the game world, and once defined, even minimalist racial templates are *rules* – composite advantages or disadvantages that define every member of a race, which players accept when they agree to play in the campaign. Playing a member of a race is a package deal; the template lists what's in the package. A race's fundamental nature rarely varies enough for advice on player choice to be appropriate (but see *Lenses and Sub-Races,* p. 23, and especially *Modification,* p. 37), even if individual members can learn and do as many different things as humans. On the other hand, character templates – however mandatory or prescriptive – are *guidelines.*

Even so, both dramatic templates for characters and templates for races can reflect consideration of archetypal qualities. Gamers designing cultural templates for characters may find the advice in *Social Traits* (pp. 34-35) helpful. And the suggestions for modifying racial templates may also help in developing character templates to fit specific races.

What Are Races?

In ***GURPS,*** "race" is shorthand for a kind or category of beings. But different broader groups of beings can be classified in different ways – for example, as biological species of living organisms, or as models of machines. Such broader groups also commonly share more basic general qualities, found in all the various races that make them up, which ***GURPS*** often represents as *meta-traits* (pp. 8-11).

Some racial templates don't include all the attributes and secondary characteristics of human characters, but are limited to physical traits, or to mental ones (as defined on p. B296). Two such partial templates are joined to define a single character (see *Robots,* p. 7, and *Embodied Spirits,* p. 8). Technically, the mental template is a *lens* (*Lenses and Sub-Races,* p. 23) – but it's the mental template that carries the character's personal identity.

Humanoids

Science-fiction movies and television series often portray "rubber forehead aliens": stated to be of a different species and from a different planet, but played by actors with makeup and prosthetics. This is partly for financial reasons: models, puppets, or animated characters – especially convincing ones – cost much more. The original *Star Trek,* for example, showed the Vulcan Mr. Spock on every episode, and Klingons on several, but the amorphous Horta appeared only once.

Even without actors being involved, it seems to be easier to imagine modified humans than fundamentally different beings. Fantasy races from pixies to giants are often humanoid, and so are extraterrestrials such as "grays." Furry art, going back to newspaper cartoons such as Krazy Kat, anthropomorphizes many of its animal characters – and they have precursors such as Egyptian animal-headed gods and the Paleolithic "lion man" sculpture.

In some cases, this humanoid form is realistically justified. A prehistoric or alternate history campaign could include hominid species other than *Homo sapiens.* A future-history campaign could have species naturally evolved from *Homo sapiens,* or "parahuman" species created through genetic engineering. Some biologists think that a roughly humanoid body plan is better suited to sapient life than any other, so that if aliens do exist, they are likely to look like us.

Realistic or not, humanlike races won't have a distinctive meta-trait. Their body shape is roughly human, they're living organisms (though robots may be human-shaped for cosmetic reasons; see *Robots and Automata,* p. 7), they're likely to be native to an Earthlike environment, and they probably think more or less like us. It's even possible for a humanoid race to have only cosmetic differences that can be represented as 0-point *features* (p. B261).

Aliens

Then there are aliens who *don't* look like human beings. These are most often imagined as races that evolved on distant planets, though a few writers have described *really* alternate histories where some other life form on Earth, such as dinosaurs or cephalopods, attained sapience. These are living beings, but they may have a meta-trait representing a nonhuman body plan (pp. 9-10), and some are native to non-Earthlike planets and have advantages or features that reflect this (see *Habitats,* pp. 15-18).

Creators often take the imaginative shortcut of basing aliens on Earth animals (or sometimes plants): Avian, felinoid, saurian, and even insectoid and ameboid races are common in science fiction. More innovative creators may come up with novel species, but define them as "vertebrates" or "mollusks" or the like – Earth categories that wouldn't logically apply to the evolutionary trees of other planets – as in Olaf Stapledon's inventory of galactic races in *Star Maker.* Some writers attempt to come up with wholly novel races, such as the hrossa, séroni, and pfifltriggi in C.S. Lewis's *Out of the Silent Planet,* or many of Poul Anderson's aliens.

GURPS Space provides detailed rules for making up entirely novel alien races.

Animals

Some biological races actually *are* animals – usually Earth animals, though the rules in ***GURPS Space*** can be used to make up extraterrestrial ones. Most animals don't need racial templates (*Alternatives: Simplified Statistics,* p. 4). There are situations where racial templates are useful or even necessary, however. Creature statistics can be used as a basis for such templates – fairly straightforwardly, as they already include full sets of attributes and secondary characteristics. Animals often have both a nonhuman body plan (pp. 9-10) and a meta-trait representing their mentality and social position (p. 9).

Important examples include:

- Heroes may have *animal companions.* These can be defined as Allies, meaning they need full character sheets. They often have exceptional qualities, which can include unusual intelligence: +1 (or rarely +2) to species IQ – though this won't normally boost IQ to sapient levels (6+), except for mages' familiars.
- A campaign might be about *talking animals,* either on their own (like the rabbits in *Watership Down*) or interacting with humans (like the wolves in *The Jungle Book*). They won't have technology, so it makes sense to assume that they have their usual IQ scores – but they use some form of language despite this, either an animal language or, in some stories, human language.
- *Non-anthropomorphic furries* have human-comparable IQs but otherwise can be treated like talking animals.
- In science fiction, animals may be *uplifted* – sometimes becoming humanoid, like the Beast Men in Wells' *The Island of Dr. Moreau* or Cordwainer Smith's Underpeople; sometimes retaining a "beast" form, like Olaf Stapledon's Sirius or the chims and fins in David Brin's Uplift novels. Usually they're shown as having sapient levels of IQ, but falling a little short of human intelligence, and often being subject to Stress Atavism.
- Human beings can turn, or be turned, into animals, through Shapeshifting (pp. 38-39), by some magical spell or power, or as a curse. The animal form needs a template – especially if it's being applied to a PC!

Chimerae

In folklore and mythology, there are living beings that combine body parts from different species (for example, the original Greek *chimera* resembled a lion, but with a goat's head between its shoulder blades, and a snake in place of its tail). Often these are unique (*Alternatives: Unique Beings,* p. 5), but they may make up races, such as centaurs or merfolk, particularly if they're part-human. Such races have body-plan meta-traits (pp. 9-10).

Toons

Toons aren't as clearly defined a category as the others discussed here. Many classic toons are anthropomorphic "funny animals" that could be described as humanoids; others are animals, vehicles, aliens, robots, ghosts, and even humans. But they all have more basic things in common.

Many toons exist in cartoon worlds with their own peculiar natural laws. But a more interesting situation, the one this supplement focuses on, is toons existing in and interacting with a normal physical world and its inhabitants. In doing so, they seem to have substance; but they look like artistically rendered images, and have a large measure of indestructibility. In fact, they act like classic cartoon characters even when interacting with a non-cartoon world, as in *Who Framed Roger Rabbit?* and *Cool World.* To represent this, take the Animated Character meta-trait (p. 9).

Other toon abilities often have the Cosmic power modifier (+50%) from ***GURPS Powers:*** They come from a source that transcends natural law, the animator (or GM); they can't be cut off anywhere in the campaign world; and they can violate that world's physical laws in various ways. On the other hand, many have the limitation Aspected, Only if it's funny! (-20%). Some examples:

Bigger Than Your Head: Your stomach, cheek pouches, trunk, or other internal space can contain huge loads – if you spend enough points, even objects bigger than you are. Payload (Aspected, Only if it's funny!, -20%; Cosmic, Exceeds normal limits, +50%) [1.3/level].

Funny Faces: You can distort your face, features, and body to look like someone else. You're not limited to closely similar races; having the same morphology is enough. Elastic Skin (Aspected, Only if it's funny!, -20%; Cosmic, Dissimilar races, +50%) [26].

Magic Pockets: You can pull any sort of unexpected thing out of your pocket – a bicycle, a potted rosebush, a trombone – as long as you can lift it one-handed (p. B353). Gizmos (Aspected, Only if it's funny!, -20%; Cosmic, Unrestricted size, +50%) [6.5/level].

Most chimeric beings were invented without much concern for biological realism, but some have been used as models for aliens, and furry artists have envisioned hybrid races as well.

Robots and Automata

Robots are constructed beings, ordinarily incapable of reproducing. If they are produced in substantial numbers, and especially if they are manufactured, they'll have models, which can be treated as "races" and have templates. Classic science-fictional robots are human-shaped (and may be played by human actors, as in *Star Wars* and *Star Trek: The Next Generation*), but unlike humanoids (p. 5), their functions are mechanical rather than biological. Newer imaginings of robots have often featured utilitarian designs, from self-aware computers that fill entire rooms to Hans Moravec's proposed fractal-branching "bush robots."

In ***GURPS,*** most robots are controlled by internal computers and have two partial templates: a *cybershell* (the body and hardware) and an infomorph (the software; see below). Typical cybershells are machines, with the Machine meta-trait (p. 9), which includes being Unliving. However, there are other options, from clockwork in a fantasy-tech campaign to sophisticated analog systems. Such robots don't have separate physical and mental templates; their minds aren't "software" and don't have Complexity-Limited IQ (p. 12), nor do they always have Digital Mind. Robots *can* have the Automaton meta-trait (p. 9), but this makes them unsuitable as independent characters, though they can be Allies with the Minion enhancement.

Constructed or manufactured beings can have biological components, or even be entirely biological, as with the "bioroids" of several anime series. Bioroids are sterile, as part of a meta-trait reflecting their distinctive construction (p. 9). Bioroids are usually humanoid, but there have been portrayals of non-humanoid artificial living beings such as H.P. Lovecraft's amoeba-like shoggoths, created by an alien race in Earth's distant past. Recent depictions of shapeshifting nanotech robots offer a mechanical parallel. A fantasy setting may have magically or divinely animated golems shaped from unliving matter; these function much like embodied spirits (p. 8) but often have the Automaton meta-trait.

Vehicles

Vehicles are normally described as machines, with simplified statistics (*Alternatives: Simplified Statistics,* p. 4). However, the character-creation system can be used to write up a vehicle as a specialized kind of Ally, one that the primary character rides around in or on. Each model of vehicle counts as a "race" and has a template.

The Vehicle meta-trait (p. 9) enables a vehicle to be operated, using controls. A typical vehicle has Payload, which provides space and load capacity for the operator. A vehicle that has Telecommunication (Vague) can be controlled remotely by an operator who can see it; one with Telecommunication (Video) and imaging sensors can send images to the operator. Such vehicles have IQ 0, and as Allies have the Minion enhancement, with no upper limit to their point totals.

Treat vehicles with IQ greater than 0 as robots or cybershells (see above). They may still have controls (see *Compartmentalized Mind,* p. 43).

Complexity of Computers

Any particular computer can run some programs and not others. ***GURPS*** addresses this through Complexity ratings, assigned on one hand to each computer and on the other to each program. A standard computer can run two programs of its own Complexity, or trade off one program for 10 programs with one level less Complexity. A computer's Complexity depends on its size, TL, and design options; see ***GURPS High-Tech*** and ***GURPS Ultra-Tech*** for detailed rules, which can be used to decide if a computer can fit into a race's body. Those rules also give cash costs for computers, but these can mostly be disregarded in creating racial templates.

In this supplement, Complexity is important because digital intelligences are *programs* with Complexity scores. It takes a higher-powered computer to run a mind with a higher racial IQ. See *Complexity-Limited IQ* (p. 12).

Infomorphs

At TL8, it becomes possible to copy data and programs from one computer to another. This gives rise to the idea of the mind as *software,* which inhabits a body as *hardware.* An infomorph is a template for such a mind, which includes Digital Mind. Infomorphs are intangible, but the information that makes them up must be stored in some tangible form that a computer can access – and that can be destroyed or erased.

Infomorphs have only mental statistics; the physical statistics go with the cybershell they run on (see *Robots and Automata,* above). The cybershell also gives them actual sensory abilities (*The Senses,* p. 26), to which the mental trait of Per can be applied. In some worlds, conversely, a robot's DX may be a partly mental trait (see p. B296). The infomorph runs on a computer housed within the cybershell, and its IQ is limited by that computer's Complexity (*Complexity of Computers,* above; *Complexity-Limited IQ,* p. 12). It can access the computer and run ordinary programs on it, giving the cybershell Accessory (Computer).

Being made up of digital code, infomorphs are capable of being stored and transmitted. Storage gives them the option of Extra Life, representing a replacement cybershell than can house a stored copy. Transmission gives them the option of Possession (Digital), if they are capable of actively taking control of a new cybershell. In either case, the new cybershell must have sufficient Complexity to support their racial IQ! The Puppet advantage lets them buy an additional cybershell as an Ally, possibly with Minion. In principle, they could copy themselves without limit, but most societies have laws restricting copying; an infomorph that violates these laws has a Secret (often at the level of "possible death") or a Social Stigma (Criminal Record or Monster).

Spirits

A spirit is another type of intangible entity – a supernatural one that doesn't need to be stored in a physical medium. As such, it has no physical needs and usually doesn't age.

Intangible Spirits

Many spirits inhabit the material world without themselves being material: they can perceive it from some point of view and have a form, but lack substance. The most limited spirits can't be seen, touched, or attacked (unless the attack has Affects Insubstantial), and can't speak or manipulate objects. More capable spirits may be able to speak or become visible, to manipulate objects telekinetically, or to cast spells or influence minds. Some of them can even solidify for a short time. Various meta-traits encapsulate these capabilities.

Some intangible spirits are linked to parts of the natural world, such as trees, bodies of water, or even planets. Others were formerly living people; in some worlds, every sapient being has Potential Form (Spirit) – see *Features and Taboo Traits* (p. 12). A more specialized case is that of *tulpas,* or thought-forms (***GURPS Horror,*** p. 81), *created* by a living person through prolonged meditation or similar processes. A tulpa typically has Automaton (p. 9), acting only according to its creator's will.

Embodied Spirits

Other spirits enter the material world through *embodiment,* gaining a physical form after being summoned by magic or sent by a greater supernatural power. Common examples of embodied spirits include angels, which typically look human but are more powerful; demons, which may look human but are often monstrous; and elementals, which animate a particular substance. At the GM's option, an embodied spirit may be defined by two partial templates: the *vessel* for the material form (based, for example, on an elemental meta-trait; see pp. 20-21) and the *animus* for the mind. Animi are Unaging and may be Reprogrammable, if speaking their true names grants power over them.

The Undead

The undead are often a variant of embodied spirits: spirits of the dead inhabiting physical forms. But they have enough distinctive traits to merit their own category. They start out as living beings (usually human); their racial traits are a lens that can be applied to a living character, typically representing their having died and then been reanimated in some way. Supernatural animation can involve the dead person's spirit, brought back to trouble the living; some other spirit taking advantage of an empty body; or a magic spell, often intended to produce a servant (such servants are Allies with the Minion enhancement). But similar lenses can represent reanimation by an exotic disease, advanced technology, or some other purely natural process.

Corporeal undead have a meta-trait that includes some whole-body version of Injury Tolerance; see *Postmortal* (p. 21). There are also spectral undead, which are intangible spirits (above) of some type.

When the sons of God came in unto the daughters of men, and they bare children to them, the same became mighty men which were of old, men of renown.

– Genesis 6:4

Hybrids

What if different biological races are cross-fertile? If there are more than two or three such races, creating templates for every possible hybrid is probably too much work. But it's possible to provide guidelines for various approaches.

One common assumption is that the hybrid has the traits of both parents, in weaker forms. In particular, a half-human hybrid often has weaker versions of the nonhuman parent's traits; e.g., half-elves are long-lived but not unaging. If both parents have racial templates, a trait they have in common will be present at full strength; unshared traits may be diminished or missing, and opposing traits definitely will be.

Some hybrids might have both parental templates at full strength. Here, again, opposing traits usually cancel out.

Finally, a hybrid might have a form of "hybrid vigor," gaining distinctive new traits found in neither parent. Any such trait *requires* GM approval.

In a fantasy campaign, dissimilar species might hybridize, producing chimerae (pp. 6-7) with distinctive body plans. If the setting includes supernatural beings, it might also have demigods, or children of mortals and spirits. Demigods almost always have weaker powers than gods, though they may graduate to full divinity after a life of heroic adventure – a version of Potential Form (p. 12).

Meta-Traits

Meta-traits (pp. B262-263) are another sort of package deal in character design. Like racial templates, they're fixed in content. But they neither specify a kind of being in complete detail nor define only one kind of being. Rather, they encompass sets of traits that are found together in many races. They can be used as shorthand in defining a racial template, and they simplify the design process by reducing the number of decisions required.

Animated Character

85 points

You're a three-dimensional drawing that can interact with the physical world but can't be permanently hurt by doing so. However, you're vulnerable to one special sort of attack. Unkillable 2 (Achilles' Heel, Cosmic attack, Rare, -10%) [90]; Unnatural Features 5 [-5].

Bioroid

-5 points

You're an artificially constructed being made from living tissues, typically but not necessarily humanoid. Early Maturation 1* [0]; Sterile [0]; Unusual Biochemistry [-5].

* Additional levels of Early Maturation are common.

Machine

25 points

You're an artificially constructed being made from nonliving parts. Fuel Supply [0]; Immunity to Metabolic Hazards [30]; Injury Tolerance (No Blood; Unliving) [25]; Not Pressurized [0]; Not Subject to Aging [0]; Not Subject to Fatigue [0]; Sterile [0]; and Unhealing (Total) [-30].

Mentality Meta-Traits

You think differently than human beings in some way.

AI: A computer mind. Absolute Timing [2]; Digital Mind [5]; Doesn't Sleep [20]; Intuitive Mathematician [5]; Photographic Memory [10]; Reprogrammable [-10]. *32 points*.

Automaton: A mind lacking creativity and free will. Suited to such beings as golems, magically reanimated corpses, and simple AIs. Hidebound [-5]; Incurious (6) [-10]; Low Empathy [-20]; No Sense of Humor [-10]; Slave Mentality [-40]. *-85 points.*

Domestic Animal: A farm animal, mount, or pet, or a trained wild animal. Cannot Speak [-15]; Hidebound [-5]; Social Stigma (Valuable Property) [-10]; Taboo Trait (Fixed IQ) [0]. *-30 points.*

Upload: A formerly living being whose brain is now being emulated on a computer. Your maximum possible IQ is (2 × Complexity). Complexity-Limited IQ [0]; Digital Mind [5]; Reawakened [0]. *5 points.*

Vehicle: An ordinary vehicle without sentience or the ability to set its own course (*Vehicles,* p. 7). IQ 0 [-200]; Compartmentalized Mind 1 (Controls) [25]; Injury Tolerance (No Brain) [5]; Insensate [0]; Nonautonomous [0]; Social Stigma (Subjugated) [-20]; Taboo Trait (Fixed IQ) [0]. *-190 points.*

Wild Animal: An ordinary animal found in nature. Bestial [-10]; Cannot Speak [-15]; Hidebound [-5]; Taboo Trait (Fixed IQ) [0]. *-30 points*.

Morphology Meta-Traits

Many races are non-humanoid, including aliens, animals, chimerae, vehicles, and some robots and embodied spirits. Their body forms can be described in game terms using an expanded set of *morphology meta-traits* (see p. B263). Such meta-traits fall into two main groups: biological and vehicular/robotic (questions of morphology don't apply to infomorphs, and seldom affect intangible spirits). The following examples address the most common cases and make it relatively straightforward to extrapolate others.

Organisms

Most of the animal body plans provided here are based on *Non-Humanoid Hit Location Tables* (pp. B552-553). Cancroid and Vermiform have each been split into two types. For additional hit location tables for new body plans, see p. 10.

Angeloid: A humanoid with separate wings growing out of the shoulders, such as an angel or devil. Flight (Winged, -25%) [30]. *30 points.*

Arachnoid: A spider or similar eight-legged creature. Extra Legs (Eight Legs) [15]; Horizontal [-10]; No Fine Manipulators [-30]. *-25 points*.

Asteroid: A creature with radial symmetry and five arms, such as a starfish. Extra Arms 3 (Foot Manipulators, -30%; Short, -50%) [6]; Extra Legs (Five Legs) [10]; Horizontal [-10]; Injury Tolerance (No Head; No Neck) [12]; Short Foot Manipulators 2 [-16]. *2 points.*

Avian: A bird. Flight (Winged, -25%) [30]; Foot Manipulators 2 [-6]; Tail [0]. *24 points.*

Cancroid: A crab- or lobster-like creature with forelimb pincers. Might have Tail [0]; if so, treat as Scorpionoid when rolling hit location. Extra Legs (Eight Legs) [15]; Good Grip 1 [5]; Ham-Fisted 2 [-10]. *10 points.*

Centauroid: A chimeric being with a humanoid torso growing out of a quadruped body. Extra Legs (Four Legs) [5]; Tail [0]. *5 points.*

Helminth: A true worm, with no skeleton, such as a flatworm, roundworm, earthworm, or leech. Double-Jointed [15]; Injury Tolerance (No Neck) [5]; Invertebrate [-20]; No Legs (Slithers) [0]; No Manipulators [-50]; No Skull DR [-2]. *-52 points.*

Hexapod: A six-legged creature such as an insect. Extra Legs (Six Legs) [10]; Horizontal [-10]; No Fine Manipulators [-30]. *-30 points.*

Ichthyoid: A typical fish, ichthyosaur, or cetacean. If the tail can deal blows, buy its attack separately as Striker. No Legs (Aquatic) [0]; No Manipulators [-50]; Tail [0]. *-50 points.*

Octopod: An octopus with eight arms that double as legs. Extra Arms 6 (Extra-Flexible, +50%; Foot Manipulators, -30%) [72]; Extra-Flexible Foot Manipulators 2 [4]; Extra Legs (Eight Legs; Cannot Kick, -50%) [8]; Invertebrate [-20]. *64 points.*

Ovoid: A creature with radial symmetry and without limbs or a distinct head, such as a sea urchin; can also be used for ameboid creatures by adding Invertebrate. Its only hit locations are torso (0), vitals (-3), and *possibly* eyes (-9). Injury Tolerance (No Head; No Neck) [12]; No Legs (Slithers, Aquatic, or Aerial) [0]; No Manipulators [-50]. *-38 points.*

Quadruped: A typical mammal, reptile, or amphibian. Extra Legs (Four Legs) [5]; Horizontal [-10]; No Fine Manipulators [-30]; Tail [0]. *-35 points.*

Scorpionoid: A scorpion-like creature with forelimb pincers and a long tail (buy its attack separately as Striker). Equivalent to Cancroid except for having fewer legs. Extra Legs (Six Legs) [10]; Good Grip 1 [5]; Ham-Fisted 2 [-10]; Tail [0]. *5 points.*

Semi-Upright: An ape or bear. Use *Human and Humanoid Hit Location Table* (p. B552). Semi-Upright [-5]. *-5 points.*

Serpentoid: A snake. Double-Jointed [15]; No Legs (Slithers) [0]; No Manipulators [-50]; Tail [0]. *-35 points.*

Tritonoid: A humanoid with a fish or dolphin's tail in place of legs, such as a classic mermaid. If the tail can deliver blows, buy its attack separately as Striker. No Legs (Aquatic) [0]; Tail [0]. *0 points.*

Vespertilian: A bat or pterosaur. Hit locations use the "Avian" column on p. B553. Flight (Temporary Disadvantage, No Fine Manipulators, -30%; Winged, -25%) [18]; Short Arms with No Physical Attack 2 [-20]; Tail [0]. *-2 points.*

Winged Hexapod: An insect with wings. Extra Legs (Six Legs) [10]; Flight (Winged, -25%) [30]; Horizontal [-10]; No Fine Manipulators [-30]. *0 points.*

Vehicles and Other Machines

Vehicles get just one hit location table (p. B554). This suits many types of machines. Other machines can often be treated as having one location – the body – or as having the body plus a vital area (targeted at -3, or hit randomly on 17-18). Humanoid robots and mecha can use the humanoid hit location table – or the "Quadruped" column on p. B553 for models such as Boston Dynamics' dog robots.

However, many broad classes of vehicles are defined by distinct meta-traits:

Airship: A powered lighter-than-air vehicle. Flight (Lighter Than Air, -10%) [36]; No Legs (Aerial) [0]; No Manipulators [-50]; Numb [-20]. *-34 points.*

Angeloid, Asteroid, Helminth, Scorpionoid, Serpentoid, and Tritonoid Hit Location Table

Roll	*Angeloid*	*Asteroid*	*Helminth*	*Scorpionoid*	*Serpentoid*	*Tritonoid*
–	Eye (-9)	Eye (-9)	Eye (-9)	Eye (-9)	Eye (-9)	Eye (-9)
3-4	Skull (-7)	Torso (0)	Brain* (-7)	Skull (-7)	Skull (-7)	Skull (-7)
5	Face (-5)	Torso (0)	Face (-5)	Face (-5)	Face (-5)	Face (-5)
6	Right Leg (-2)	Arm 1 (-2)	Torso (0)	Neck (-5)	Neck (-5)	Tail (-3)
7	Right Leg (-2)	Arm 2 (-2)	Torso (0)	Arm† (-2)	Neck (-5)	Torso (0)
8	Right Arm (-2)	Arm 3 (-2)	Torso (0)	Arm† (-2)	Neck (-5)	Right Arm (-2)
9	Wing† (-2)	Torso (0)	Torso (0)	Torso (0)	Torso (0)	Torso (0)
10	Torso (0)	Torso (0)	Torso (0)	Torso (0)	Torso (0)	Torso (0)
11	Groin (-3)	Torso (0)	Torso (0)	Torso (0)	Torso (0)	Groin (-3)
12	Left Arm (-2)	Arm 4 (-2)	Torso (0)	Tail (-3)	Torso (0)	Left Arm (-2)
13	Left Leg (-2)	Arm 5 (-2)	Torso (0)	Leg† (-2)	Torso (0)	Torso (0)
14	Left Leg (-2)	Arm 1 (-2)	Torso (0)	Leg† (-2)	Torso (0)	Tail (-3)
15	Hand† (-4)	Torso (0)	Torso (0)	Leg† (-2)	Torso (0)	Hand† (-4)
16	Foot† (-4)	Torso (0)	Torso (0)	Leg† (-2)	Torso (0)	Tail (-3)
17-18	Neck (-5)	Torso (0)	Torso (0)	Foot† (-4)	Tail (-3)	Neck (-5)
–	Vitals (-3)	Vitals (-3)	Vitals (-3)	Vitals (-3)	Vitals (-3)	Vitals (-3)

* Treat as skull, but without DR 2.
† Roll randomly for which.

Boat: A vehicle that travels on the surface of water or another liquid. Horizontal [-10]; No Legs (Aquatic) [-10]; No Manipulators [-50]; Numb [-20]. *Notes:* No Legs (Aquatic) is priced to reflect the vessel's inability to dive and dependency for mobility on masts, oars, or propellers that can't be armored. *-90 points.*

Fixed-Wing Aircraft: A winged aircraft with propellers or jets. Flight (Cannot Hover, -15%; Nuisance Effect, Noisy and dangerous, -5%; Winged, -25%) [22]; Horizontal [-10]; No Legs (Tracked or Wheeled) [-20]; No Manipulators [-50]; Numb [-20]. *-78 points.*

Glider: An unpowered heavier-than-air flying vehicle. Flight (Controlled Gliding, -45%) [22]; No Legs (Aerial) [0]; No Manipulators [-50]; Numb [-20]. *-48 points.*

Ground Vehicle: A car, tank, etc. Horizontal [-10]; No Legs (Tracked or Wheeled) [-20]; No Manipulators [-50]; Numb [-20]. *-100 points.*

Helicopter: A rotary-wing aircraft with a powered rotor. Flight (Nuisance Effect, Noisy and dangerous, -5%; Winged, -25%) [28]; Horizontal [-10]; No Legs (Tracked or Wheeled) [-20]; No Manipulators [-50]; Numb [-20]. *-72 points.*

Hovercraft: An air-cushion ground vehicle with skirts or stabilizers. Flight (Low Ceiling, 5 feet, -25%; Nuisance Effect, Noisy, -5%; Small Wings, -10%) [24]; No Legs (Aerial) [0]; No Manipulators [-50]; Numb [-20]. *-46 points.*

Submersible: A vehicle that can travel under water or another liquid. Horizontal [-10]; No Legs (Aquatic) [0]; No Manipulators [-50]; Numb [-20]. *-80 points.*

*You are **utterly** the stupidest, most **self-centered,** appallingest **excuse** for an **anthropomorphic personification** on **this** or any **other** plane!*

*– Death, in **The Sandman** #1/8*

Nanotechnology

Nanotechnology can take a variety of forms, from realistic near-future speculation to cinematic superpowers.

- *Nanotech fabrication* (TL8-12) can produce advanced materials for conventional machines and structures, such as buckminsterfullerenes, nanotubes, diamondoid (p. 20), or catalysts.
- *Embedded nanotech* can actively repair materials that contain it, such as bioplastic (TL10-12) or living metal (TL12), given energy and raw materials. Machines with this capability have Unhealing (Partial) rather than (Total) – the condition being availability of specific elements. Cinematic machines may be able to heal without special requirements or even have Regeneration at some level.
- For *nanomorphs* (TL12), see below. Many have Fuel Supply and Sterile, but advanced versions may be able to consume food or reproduce. Cinematic nanomorphs might have advanced healing and shapeshifting abilities.
- For *nanoswarms* (TL12), see *Swarms* (pp. 14-15).

Nanomorph: A robot or other technological entity whose functions are carried out by subunits distributed through its body, rather than by discrete parts. Immunity to Metabolic Hazards [30]; Injury Tolerance (Homogenous; No Blood) [45]; Not Subject to Aging [0]; Not Subject to Fatigue [0]; Unhealing (Partial) [-20]. *55 points.*

Spirit Meta-Traits

You are a disembodied consciousness that has a location in the physical world and is able to perceive it.

Unmanifested Spirit: A spirit that cannot become visible, speak, materialize, or use its powers to affect the physical world. Doesn't Breathe [20]; Doesn't Eat or Drink [10]; Doesn't Sleep [20]; Immunity to Metabolic Hazards [30]; Insubstantiality (Always On, -50%) [40]; Invisibility (Substantial Only, -10%) [36]; Mute (Substantial Only, -10%) [-22]; Unaging [15]. *149 points.*

More interesting spirits have expanded capabilities for interacting with the physical world, rather than just observing it. There are several options for this:

Demon: A spirit that can possess a living being and use its body to act on the physical world. Doesn't Breathe [20]; Doesn't Eat or Drink [10]; Doesn't Sleep [20]; Immunity to Metabolic Hazards [30]; Insubstantiality (Affect Substantial, +100%; Always On, -50%) [120]; Invisibility (Substantial Only, -10%) [36]; Mute (Substantial Only, -10%) [-22]; Possession (Spiritual, -20%) [80]; Unaging [15]. *309 points.*

Phantasm: A spirit that can become visible, speak, and use magic or powers to affect physical beings. Doesn't Breathe [20]; Doesn't Eat or Drink [10]; Doesn't Sleep [20]; Immunity to Metabolic Hazards [30]; Insubstantiality (Affect Substantial, +100%; Always On, -50%) [120]; Invisibility (Substantial Only, -10%; Switchable, +10%) [40]; Unaging [15]. *255 points.*

Poltergeist: A spirit that can hurl things and make disturbing noises. The ability to move things is bought separately, as Telekinesis. Cannot Speak [-15]; Disturbing Voice [-10]; Doesn't Breathe [20]; Doesn't Eat or Drink [10]; Doesn't Sleep [20]; Immunity to Metabolic Hazards [30]; Insubstantiality (Affect Substantial, +100%; Always On, -50%) [120]; Invisibility (Substantial Only, -10%) [36]; Unaging [15]. *226 points.*

Sprite: A spirit that can physically manifest, becoming visible, tangible, and more vulnerable. Doesn't Breathe (Only when insubstantial, -10%) [18]; Doesn't Eat or Drink (Only when insubstantial, -10%) [9]; Doesn't Sleep [20]; Immunity to Metabolic Hazards (Only when insubstantial, -10%) [27]; Insubstantiality (Difficult Materialization, -20%) [64]; Invisibility (Only when insubstantial, -10%; Substantial Only, -10%) [32]; Mute (Only when insubstantial, -10%; Substantial Only, -10%) [-20]; Unaging [15]. *165 points.*

Features and Taboo Traits

All of these traits cost 0 points.

Body of Swarm: You're a single mind inhabiting many bodies, which can act together as a cohesive swarm; see *Swarms* (p. 14-15). This must be taken in conjunction with Injury Tolerance (Diffuse), possibly with modifiers; see *Injury Tolerance* (p. 43).

Carrier: Similar to Dominance and Infectious Attack, but the newly created member of your race is neither a minion nor a possible enemy. See *Permanent Transformation* (p. 40).

Complexity-Limited IQ: A taboo trait for infomorphs. You're a program with a rated Complexity (*Complexity of Computers,* p. 7). Your maximum racial IQ is (2 × Complexity), unless your meta-trait or template specifies a lower maximum. You can buy your *personal* IQ up (or down!), unless you have Fixed IQ.

Early Maturation: You mature at the same rate as if you had Short Lifespan (p. B154) without affecting the frequency of aging rolls. Up to five levels are possible:

Level	***1***	***2***	***3***	***4***	***5***
Maturity	9 years	4 years	2 years	1 year	6 months

Fixed (Attribute): A taboo trait. One of your attributes cannot be bought up or down from the value in a meta-trait or racial template.

Fixed (Skill): A taboo trait. One of your skills gets its value from your racial template and cannot be improved from it.

Fuel Supply: Applies to machines. You get energy from fuel instead of food. You can function for eight hours and need refueling three times a day. Advantages and disadvantages can modify this; e.g., Doesn't Eat or Drink if you're powered by a reactor that's good for years, or Increased Consumption if you go through fuel quickly. If you run out of fuel, you don't gradually starve to death or lose FP – you stop functioning immediately! You don't lose HP and won't "die" (be destroyed), however; refueling makes you functional again, assuming you haven't been damaged in some other way.

Insensate: Beyond simply having Per 0 and Fixed Per, which would still allow Per rolls with a sufficient positive modifier (such as +10 for being in plain sight), you have effective Per 0 in all situations. You may have sense organs, but you yourself can't use them.

Nonautonomous: Applies to many machines, particularly vehicles. You must have Compartmentalized Mind (Controls or Dedicated Controls); with this trait, you have no self-directing capabilities, computer-based or otherwise. Your DX and Basic Speed have no effect on your actions, and you can't buy them up or down (however, you can buy Handling Bonus or Penalty for Enhanced Move). You act on your operator's Basic Speed. Your operator's control rolls take the place of DX rolls, and your Dodge equals (operator's control skill/2) + Hnd, rounded down. The starting value for your Basic Move is 5, and if you have an air Move, its starting value is 10; you can buy either up or down at the usual cost, without restrictions. Anyone who can physically access your controls can operate you (at their effective skill level), but you may have security measures, bought as *Accessory (Lock)* (p. 45).

Not Pressurized: Applies to characters with both Unliving (usually as part of Machine; see p. 9) and Immunity to Metabolic Hazards. In a vacuum, you are not subject to explosive decompression (p. B437) – but lubricant evaporation, cold welding of parts, extreme temperatures, and so on mean you must roll daily as described in *Slime, Sand, and Equipment Failure* (p. B485), unless you're designed for airless conditions (Vacuum Support).

Not Subject to Aging: Applies to machines. Your body doesn't age and you never make aging rolls. Instead, your body wears out, with effects similar to aging.

Not Subject to Fatigue: Applies to machines. You have no Fatigue Points and cannot spend FP to engage in extra effort; see *Machines and Fatigue* (p. B16).

Potential Form: A one-way version of Alternate Form, changing you from one racial template to another. The new form can't change back, though it may include a *further* Potential Form. The change isn't voluntary – it's triggered by maturation with time, exposure to a novel environment, or a high level of stress. If the new template costs more points than the old one, treat this like Heir (p. B33).

Radiation Hardened: Applies to characters with both Unliving (usually as part of Machine; see p. 9) and Electrical. You're immune to radiation sickness; however, each time you accumulate 100 rads of exposure, roll vs. HT+4, at -1 per cumulative 100 rads. On a failure, you need repairs (minor if cumulative rads are less than 10× your HP, major otherwise; see pp. B484-485). On a critical failure, you permanently stop functioning, and your stored data and memories are lost.

Reawakened: As a feature rather than an advantage (p. B80), this reflects a former existence recent enough that it doesn't give access to unusual skills.

Sterile: You lack the ability to reproduce through biological or other internal processes. This doesn't deprive you of sexual features or functions; see *Neutered or Sexless* (p. B165).

Tail: You have a normal animal tail without special functions, which can be targeted.

All organs of an animal form a single system, the parts of which hang together, and act and react upon one another; and no modifications can appear in one part without bringing about corresponding modifications in all the rest.

– Baron Georges Cuvier, ***History of the Progress of the Natural Sciences***

Chapter Two
Basic Parameters

Several broad general issues are best considered together at the outset. Many of these involve 0-point racial features (in addition to those discussed in Chapter 1). Some relate to racial size, weight, and strength, or have implications for these. Others help to define a race's basic physical or magical nature, or its preferred environment.

For simplicity, size and weight are abstracted as a Size Modifier, or SM (pp. B19-20), based on the being's longest dimension – usually height or length. Humanlike races have typical values of weight, ST, and HP for each SM, shown in the *Size and Weight Table* (below); the table gives different ST and HP values for living, Unliving, and Homogenous/Diffuse races. For other races, things can get more complicated, making it necessary to have separate modifiers for ST, and for weight and HP. The GM has the option of using precise values for traits, at the expense of more complicated calculations. All this is discussed under *Scale* (below), *Gravity* (pp. 15-16), and *Density and Weight* (pp. 18-19).

Size and Weight Table

			ST/HP		
Size Modifier	***Height/Length***	***Weight***	***Living***	***Unliving***	***Homogenous/ Diffuse***
-8	0.1 yard (3.5")	0.0125 lb. (0.2 oz.)	1	1	2
-7	0.15 yard (5")	0.04 lb. (0.6 oz.)	1	1-2	3
-6	0.2 yard (7")	0.125 lb. (2 oz.)	1	2	4
-5	0.3 yard (10")	0.4 lb. (6 oz.)	1-2	3	6
-4	0.5 yard (18")	1.25 lbs.	2-3	5	10
-3	0.75 yard (27")	4 lbs.	4	7-8	15
-2	1 yard (36")	12.5 lbs.	5	10	20
-1	1.5 yards (54")	40 lbs.	7-8	15	30
0	2 yards (6')	125 lbs.	10	20	40
+1	3 yards (9')	400 lbs.	15	30	60
+2	5 yards (15')	1,250 lbs.	25	50	100
+3	7 yards (21')	2 tons	35	70	140
+4	10 yards (30')	6 tons	50	100	200
+5	15 yards (45')	20 tons	75	150	300
+6	20 yards (60')	60 tons	100	200	400
+7	30 yards (90')	200 tons	150	300	600
+8	50 yards (150')	600 tons	250	500	1,000

Scale

Scale is a race's physical dimensions relative to the human baseline. This is expressed primarily by SM: A race that's bigger than humans has a positive SM; one that's smaller, a negative SM. Choice of scale affects largest dimension, ST, and weight and HP by the same number of steps. See the *Size and Weight Table* (above) for specifications.

When using the table, largest dimension is usually rounded *up* to the next value shown; e.g., a 5'2" human is SM 0. This should be applied to the race, not the individual; typical humans are SM 0, so a 6'4" human doesn't have to be treated as SM +1.

Weights shown are *typical* for the specified SMs, however. A human weighing 125 lbs. would probably be shorter than 6'; a 6' human would probably be heavier than 125 lbs. For humanoids, use the *Build Table* (p. B18).

Size Modifier should be adjusted for build: +1 for an elongated box shape, or +2 for a cube, sphere, or blob (p. B19). Adjustments in the other direction are also possible; e.g., a mature boa constrictor is 7' to 10' long (roughly SM +1), but weighs 22-33 lbs., a bit under the weight for SM -1, and so can be given a build modifier of -2 for an elongated cylinder shape.

For humanoid races, use 0-point features to represent smaller adjustments to build:

Gracile: Gracile 1 adds 5% to average height for a character's ST; Gracile 2 adds 10%. Weight is unchanged.

Robust: Robust 1 subtracts 5% from average height for a character's ST; Robust 2 subtracts 10%. Weight is unchanged.

Realistic Scale

The standard ***GURPS*** approach to racial scale relies on a realistic principle: the *square-cube law.* If a race's shape is kept the same but its longest dimension is doubled, its other two dimensions must also double; that multiplies its volume, and therefore its weight, by 2×2×2, or the *cube* of 2. On the other hand, its ST is doubled, and its Basic Lift is multiplied by 2×2, or the *square* of 2 (in proportion to the cross-section of its muscles). Using the *Size and Weight Table* (p. 13) gives results consistent with the square-cube law. Longest dimension, weight, ST, and HP all have the same modifier for scale – the racial SM.

Examples: An average human being weighs 125 lbs., and has BL of 20 lbs., or 16% of their weight. A tarantula weighs about 2 ounces (0.125 lb.), giving it SM -6; based on this, it has ST 1 and HP 1. Its BL is 0.2 lb., or 3.2 ounces, which is 160% of its weight! (To have the proportionate strength of a spider, you need to have the proportionate *size* of a spider.)

To obtain exact scale values relative to SM 0 – especially for races based on animals with known weights – divide weight in pounds by 125 (or multiply weight in tons by 16) and use this as a weight multiplier. Take its cube root to find the multiplier for ST, HP, and longest dimension. Figure SM from longest dimension.

Example: An Indian elephant averages 4.4 tons. Multiplying by 16 gives a weight multiplier of 70.4. Taking the cube root gives a ST, HP, and length multiplier of 4.13, for ST 41, HP 41, and length 25' (SM +4).

Cinematic Scale

Races in ***GURPS*** need not be realistic! Gigantic beings in epics such as the *Odyssey,* mock epics such as *Gargantua and Pantagruel,* or outright satires such as *Gulliver's Travels* move and lift things just like human beings, despite the difference in scale; the same is true of creatures in movies, especially those played by human actors with the aid of rubber suits and miniature sets. (Both the Fifty-Foot Woman and the Incredible Shrinking Man moved like normal-sized people.) In many cases, scale isn't consistently defined. Even writers who understand the square-cube law may choose to ignore it to tell a better story, as H.G. Wells (a trained biologist) did with the giant wasps, rats, and humans in *The Food of the Gods*.

In cinematic or epic treatments of scale, tiny or huge beings interact with the environment in ways that are visually the same as for normal-sized ones. To achieve this, set aside the guidelines treating ST and HP as multiples of longest dimension. Instead, let them equal 2×, 4×, or 8× the square root of (weight in lbs./5), for creatures, machines, and continuous masses of material, respectively. Applied to a human-shaped creature, this gives BL equal to 16% of weight, *regardless of scale*. Similarly, multiply all Move scores by the scale factor (cube root of the weight multiplier); this gives Basic Move equal to 2.5× the longest dimension in yards, regardless of scale.

Swarms

Some life forms or machines are small enough that they effectively have ST 0. A living organism weighing 0.25 ounce (0.016 lb.) would have ST 0.5, rounding up to 1. Anything smaller would usually be unable to take effective physical action, not to mention being tiny (SM -8 for life forms). They would be unlikely to make suitable player-character races or interesting adversaries.

There's a way around this: treating a *swarm* of tiny entities as a single character with a racial template. The primary trait for this is Injury Tolerance (Diffuse) (p. 43). Other traits depend on the size of the swarming entities. This represents *being* a swarm all the time. The ability to *become* a swarm is Alternate Form (*Shapeshifting,* pp. 38-39).

- *Small* entities down to SM -8 (from 3.5" for typical animals to 1.8" for cubical or spherical objects) have the feature Body of Swarm (p. 12). They normally have ST 0.5 (rounding up to 1) or better; individuals can perform some effective physical actions.
- *Tiny* entities down to SM -20 (the size of a flea or a sand grain) have Body of Swarm and the modifier Infiltration (p. 43). Individuals have negligible ST.

Under the Hood: Full Realism

In the real world, scaling is even more complicated than the realistic approach assumes. To apply the square-cube law, we assumed that a man, or a tarantula, was *exactly the same shape* – just bigger or smaller. In reality, large and small creatures are built differently. Small animals have delicate legs; large ones have massive pillars. There are entire books exploring this subject, creating mathematical models, comparing measurements of different creatures, or both!

If you enjoy research and physics, there's nothing wrong with doing detailed calculations of your invented races' height, weight, strength, and speed. But for any animal between SM -6 (a tarantula) and SM +6 (an estimate for one of the largest land dinosaurs), the rules under *Realistic Scale* will be off by less than a factor of 2. You can guess at adjustments, making big creatures stronger and squatter, and small ones weaker and skinnier; or you can accept a lower standard of precision as close enough for a game. Whichever you choose to do, if you and your players are having fun, it isn't *wrong.*

• *Microscopic* entities (such as single cells, nanites, or fog droplets) are too small to be seen or to perceive the macroscopic world; treat them as constituents of a single Diffuse being, *without* Body of Swarm.

The number of small entities that make up a swarm can be estimated as the square of (HP of swarm / HP of separate bodies). The HP of separate bodies should be less than 1/3 of swarm HP; any larger and there would be too few to make up a "swarm." Tiny and microscopic entities don't need to be counted or assigned an exact size.

With Scatter (p. 43), a swarm can disperse its component bodies over a wide area. While dispersed, it's effectively insubstantial.

Habitats

Characters can be native to non-Earthlike planets. For living organisms, this usually means they evolved there. Technological entities may be able to function under a wider range of conditions, but their materials and mechanisms can still fail in sufficiently harsh environments. Even supernatural beings often have affinities for specific terrains or substances, and have trouble manifesting or acting elsewhere.

In addition to planetary environments, this section considers races that inhabit outer space.

The traits that allow a race to function in its native environment usually cost no points, just as the human ability to survive on land on Earth costs no points. Some environmental conditions are exceptions to this, however.

Atmosphere

Most living organisms and many machines get their energy by reacting food or fuel with atmospheric oxygen. In addition, the structural integrity of living organisms generally depends on being under external pressure; in trace atmospheres or vacuum, they risk physical damage (*Vacuum,* p. B437) unless they have Vacuum Support. Machines are less vulnerable – a result of the Not Pressurized feature (p. 12).

On Earthlike planets, a basic distinction can be made between land and water terrains. (Planets of other types may have similar distinctions.) Land organisms get oxygen from air, as do air-breathing machines; since this is how humans function, breathing air costs no points. Water organisms get oxygen from water, often using gills; if they can only breathe underwater, Doesn't Breathe (Gills) is a 0-point feature, but if they can also breathe air, use Doesn't Breathe (Gills, -50%) [10]. Tiny organisms, or elaborately branched ones such as some water plants, can exchange oxygen and carbon dioxide through their body surfaces; treat this as Doesn't Breathe (Oxygen Absorption, -25%) [15]. Machines can't have these traits.

As discussed on pp. 138-140 of ***GURPS Space,*** organisms on non-Earthlike planets might gain energy from breathing hydrogen, methane, sulfur compounds, or even fluorine or chlorine. Such atmospheres are suffocating, toxic, or corrosive (p. B429) – but not to *them.* Treat this similarly to having gills, as Doesn't Breathe (Hydrogen Breather) or the like. This is a 0-point feature if oxygen is toxic or corrosive to them (see *Biochemical,* pp. 19-20). If they can switch freely between oxygen and another gas, it's Doesn't Breathe with a -50% limitation. Immunity to Oxygen [5] reduces toxic to suffocating; for machines, this is included in Immunity to Metabolic Hazards. Sealed reduces corrosive to suffocating.

Other organisms gain energy from breaking down complex molecules without breathing *any* gas; this makes them immune to suffocation. Doesn't Breathe (Anaerobic) is a 0-point feature for an organism that can't tolerate oxygen (or another reactive gas). Resisting the corrosive effects of oxygen still requires Sealed. If oxygen isn't toxic, use unmodified Doesn't Breathe; the same is true for a non-air-breathing machine.

Each race has a native atmospheric *pressure,* defined as some multiple of Earth's sea-level pressure. This is another 0-point feature. All the pressure ranges defined in the rules (pp. B429-430) are multiplied by the race's native pressure *for it.* If its native pressure is vacuum, treat any positive pressure as "superdense." When rolling vs. HT to avoid injury (p. B435), treat such pressure as 30× its native pressure, exactly canceling the basic +3.

Gravity

Different planets have different surface gravities, which can be estimated using the rules in ***GURPS Space*** – or, for real planets, looked up in reference works. Surface gravity is likely to affect the evolution of any life native to the planet. In discussing this, we'll use "weight" to mean what a race would weigh in a 1G environment (a physicist would talk about "mass"); its weight in its home environment is its "native weight."

Beings from *any* native gravity suffer attribute penalties in lower or higher gravity (p. B350), though there are more penalties for higher gravity. Beings native to any planetary environment may suffer from the effects of free fall in zero gravity or microgravity (*Space Adaptation Syndrome,* p. B434). For simplicity, these different effects are treated as canceling out, making native gravity a 0-point feature (see *Home Gravity,* pp. B17-18).

The existing rules for moving to higher or lower gravity (p. B350) work well for 1G creatures, but give less plausible results otherwise: Natives of high-gravity worlds end up burdened heavily by their own bodies; natives of low-gravity worlds can move freely at up to 1G. To avoid these issues, change the multiplier for added encumbrance at higher-than-native gravity to (local gravity in Gs - native gravity in Gs).

A race's native gravity affects both its ST and its size, as measured by its longest dimension – but not in the same way. High gravity requires high ST and a compact build; low gravity allows low ST and a spindly build. This makes it necessary to distinguish a race's *effective* SM for ST from its *actual* SM, as shown in the *Gravity Table* (p. 16). A positive SM doesn't grant a Size limitation for buying ST or HP, and a race's native gravity doesn't impose a change in its weight or HP, which remain unmodified. Finally, objects fall faster or slower in high or low gravity, so it's plausible to adjust a race's Basic Speed, using the multipliers in the *Gravity Table.*

In designing alien races, a useful trick is to trade off scale for gravity: If low gravity makes for increased height, compensate for this with decreased scale, and vice versa for high gravity, ending up with SM 0 for height or length.

Example: Mars' surface gravity is 0.38G, barely within the range to give +2 SM for size but -1 for ST. Decreasing scale two steps results in SM 0 (human scale) for size, -3 for ST, and -2 for weight and HP; consulting the *Size and Weight Table* (p. 13), this makes Martians 6' tall, ST 4, 12.5 lbs., and HP 5. Under Martian gravity, they have native weight 4.75 lbs.

Basic Move depends on both gravity and leg length. To estimate this, multiply the race's longest dimension in yards, from the *Size and Weight Table,* by its native gravity, and see the *Basic Move Table* (below). Add or subtract 5% or 10% if the race has some level of Gracile or Robust (both p. 14). For extreme cases, use the formula Basic Move = 3.5 × square root of (gravity × longest dimension). For a race with unusually short or long legs, adjust Basic Move up or down, typically by ±1.

Example: Martians (the human-scale version) have longest dimension 2 yards and gravity 0.38G; the product, 0.76, gives Basic Move 3.

It's possible to find *exact* values, starting with actual native gravity. Divide longest body dimension by native gravity; multiply both ST and Basic Speed by (square root of native gravity). Use exact height in the Basic Move formula.

Example: Under 0.38G, if we use the *Size and Weight Table,* human-weight Martians have SM -1 for ST, which corresponds to ST 7-8, and SM +2 for scale, which corresponds to 5 yards height. Height 5 yards and 0.38G give Basic Move 5. Assuming a baseline Basic Speed of 5.00, Martians have Basic Speed 3.75. If we use the *exact* gravity value, human-weight Martians have ST = 10 × 0.62, which rounds to 6; height 6'/0.38 = 15'9"; and Basic Speed = 5.00 × 0.62, which rounds to 3.00. Height 5.25 yards gives Basic Move 5. Under Martian gravity, they have native weight 47.5 lbs.

Some races live in "weightless" environments: immersed in water or another fluid, floating in the air, or in actual zero gravity in outer space. Ignore the calculations above for them – weightlessness would imply multiplying or dividing by zero! Choose a weight for them and give them the corresponding HP. ST can be anything you like; convenient numbers are 0 for a passively drifting entity like a seaweed, or equal to HP to keep the design simple.

Races that are native to outer space have Immunity to Space Sickness as a 0-point feature. Since their native gravity is *actually* 0, their encumbrance on any planet is based on their entire body weight.

Gravity Table

Gravity Range	*Effective SM for ST*	*Actual SM*	*Basic Speed Multiplier*
0.076-0.15*	-3	+6	×0.35
0.16-0.35	-2	+4	×0.50
0.36-0.75	-1	+2	×0.75
0.76-1.50	0	0	×1.00
1.51-3.50	+1	-2	×1.50
3.51-7.50	+2	-4	×2.50
7.51-15.0	+3	-6	×3.50

* Gravity less than 0.1G is defined as "microgravity"; see pp. B350, B434.

Basic Move Table

Gravity × Longest Dimension	*0.1*	*0.3*	*0.7*	*1.3*	*2*	*2.9*	*4*	*5.2*
Basic Move	1	2	3	4	5	6	7	8

Illumination

Humans are diurnal and have eyes adapted to daytime light levels on Earth. This actually covers a wide range of illumination levels with no penalties; see the *Illumination Levels Table* (p. 17). A light level of 200,000+ lux – or any light five or more steps above what the eyes have adapted to – requires a HT roll, at -1 per step past five. Success by 3+ avoids problems; success by 0-2 requires readapting upon returning to the lower light (extra -2 to Vision for two minutes); failure dazzles (extra -4 to Vision for minutes equal to margin of failure, after which readapting to the lower light is necessary); and critical failure blinds for seconds equal to margin of failure and then works like normal failure.

Other Earth animals are adapted to dimmer conditions. Typical nocturnal animals have darkness penalties reduced by three levels, and can be dazzled by 2,000+ lux. Deep sea creatures, or some nocturnal predators, have darkness penalties reduced by six levels, and can be dazzled by 20+ lux.

On other planets, light levels may be higher or lower. If using ***GURPS Space,*** assume that full sunlight is 50,000 lux × L/(R squared), where L is the sun's luminosity in solar units and R is the planet's average orbital radius in astronomical units; round up to the next-higher level and take the result as the upper limit of undazzled vision for diurnal animals.

Mana and the Environment

In magical settings, some characters and races may function in ways that depend on magic. Varying *mana levels* (p. B235) may then affect – or limit – their functioning. This can take several forms.

Specific abilities may require magic to function. This is inherent in Magery (pp. B66-67), the ability to cast spells. Other advantages can be given the power modifier Magical, -10% (see *Races and Powers,* p. 35).

Some living creatures may be *magivores,* metabolically powered by magic. In technomagic campaigns, some robots or vehicles may similarly have magical power plants. See *Sustenance* (pp. 25-26) for suitable rules. In no-mana worlds or areas, they starve to death (for life forms) or run down (for machines).

Embodied spirits (p. 8) may be able to manifest only with the aid of mana. If so, their physical manifestations cease to exist in a no-mana area: elementals revert to their inanimate substance, and angels and demons simply vanish. Treat this as Dependency (Mana; Constantly).

Alternatively, choose a light level as the upper limit that corresponds to the temperature at which the planetary biosphere's solvent is a liquid (*Table of Solvents,* p. 18): helium, 5 lux; hydrogen, 500 lux; methane or ethane, 10,000 lux; ammonia or water, 50,000 lux; sulfuric acid, 200,000 lux; sulfur, 1,000,000 lux; magma or iron, 5,000,000 lux. Illumination four levels lower is the lower limit for seeing without darkness penalties, defined as a race's native illumination; e.g., human native illumination is 100 lux.

Illumination Levels Table

Penalty	*Minimum Lux*	*Illumination*
-10	0	Total darkness
-9	0.0001	Overcast moonless night
-8	0.0005	
-7	0.002	Starlight
-6	0.01	
-5	0.05	Moonlight, indicator LED
-4	0.2	
-3	1	Candlelight
-2	5	Twilight, flashlight beam, torchlight
-1	20	
0	100	Very overcast day, interior light
0	500	Reading light, arc light
0	2,000	TV studio
0	10,000	Daylight
0	50,000	Direct sunlight, surgical theater
+3 levels	×100	

Radiation

Radiation (technically *ionizing radiation*) damages living things by putting their molecules into energized, highly reactive states. Part of this damage is cumulative: If a being receives a dose of 1 rad or more, 10% of the dose (rounded down) never heals (pp. B435-436). A race with a superior ability to repair radiation damage could have the Radiation Recovery perk (p. 45) or some level of Regeneration with Heals Radiation or Radiation Only, which includes the benefits of Radiation Recovery. Some Earth organisms have these traits; Regeneration (Slow; Radiation Only, -60%) [4] is fairly common in the animal kingdom. If alien life forms can exist in high-radiation environments, they'll need higher levels; e.g., an organism on Jupiter's moon Io would receive 3,600 rads daily, and would require Regeneration (Fast) to survive. It doesn't seem likely that any life form would *need* radiation to keep it alive, so recovery from radiation isn't a 0-point feature.

Machines with the Electrical disadvantage have Radiation Hardened, a 0-point feature (p. 12). Those that must operate in high-radiation environments may have some level of Radiation Tolerance. Machines without the Electrical disadvantage don't suffer radiation damage, nor do races whose structure is homogenous (see *Composition,* pp. 19-21).

Temperature

GURPS gives each character a thermal comfort zone that allows normal functioning. For ordinary human beings, this is from 35°F to 90°F. This 55° range can be shifted up or down as a 0-point feature. On Earth, creatures native to hot climates (jungle terrain, or many types of desert or grassland) may be comfortable from 55°F to 110°F; creatures native to cold climates (arctic terrain) may go at low as -5°F to 50°F. Colder places exist, but they're permanently frozen. Planets with temperature ranges as much as 80°F hotter or colder are defined on p. 83 of ***GURPS Space*** as possible "garden worlds" that might have water-based life.

A wider comfort zone requires Temperature Tolerance (p. B93). Each level adds HT in °F, divided as desired between hotter and colder.

Water conducts heat much better than air. For creatures immersed in water, the comfort zone is only a 10° range (between 75°F and 85°F, if humanlike). Each level of Temperature Tolerance adds just HT/5 in °F.

Things get more complicated for a solvent (the liquid in which biomolecules are dissolved) other than water (see ***GURPS Space,*** pp. 137-139). For example, hydrogen liquefies at -423°F and freezes at -434°F, a difference of 11°. A 55° comfort zone would mean being able to survive freezing, boiling, or both! To deal with this, do the following:

1. Find the temperature range at which the solvent is liquid; the *Table of Solvents* (p. 18) gives this information for likely solvents. *Example:* Hydrogen is liquid between -434°F and -423°F; sulfur, between 239°F and 832°F.

2. Find the range's size in degrees. *Example:* Hydrogen is liquid over an 11° range; sulfur, over a 593° range.

3. Find the divisor or multiplier that scales between this and the 180° range for liquid water. Round to the nearest whole number. *Example:* For hydrogen, that's 180°/11° = 16 (liquid over 1/16 as wide a range as water); for sulfur, that's 593°/180 = 3 (liquid over 3× as wide a range as water).

4. Scale the standard 55° comfort zone by the same factor to find the size of the typical comfort zone in this environment; round fractions *up.* This can fall anywhere in the liquid range. *Example:* Liquid hydrogen creatures have a comfort zone 55°/16 = 3.4° wide, rounded up to 4°, between -434°F and -423°F; liquid sulfur beings have a zone 55° × 3 = 165° wide between 239°F and 832°F.

5. Apply the same factor to HT for Temperature Tolerance. *Example:* Liquid hydrogen life forms add HT/16 degrees to comfort zone per level of Temperature Tolerance; liquid sulfur beings add 3×HT degrees.

If you know the habitat's actual temperature, make sure it falls into the comfort zone.

Table of Solvents

Any of these temperatures can be much higher at greater pressures!

Solvent	*Freezing Point*	*Boiling Point*	*Liquid Range*	*Comfort Zone Width*	*Temperature Tolerance*	*Notes*
Helium	-458°F	-452°F	6°	2°	+HT/30	
Hydrogen	-434°F	-423°F	11°	4°	+HT/16	
Ethane	-297°F	-127°F	170°	55°	+HT	
Methane	-296°F	-259°F	37°	11°	+HT/5	
Ammonia	-108°F	-28°F	80°	28°	+HT/2	
Water	32°F	212°F	180°	55°	+HT	
Sulfuric Acid	50°F	639°F	589°	165°	+3×HT	[1]
Sulfur	239°F	832°F	593°	165°	+3×HT	
Magma (Rock)	1,300°F	2,400°F	1,100°	330°	+6×HT	[2]
Iron	2,800°F	5,182°F	2,382°	715°	+13×HT	

Notes

[1] Decomposes slowly above 572°F.

[2] Varies with composition; ultramafic forms (<45% silicon dioxide) can reach 2,940°F.

Substance

The preceding rules assume a race made of flesh or another material with comparable density – but that isn't the only option! Different density further modifies weight, HP, ST, and BL. And many substances have *other* properties that a racial template must take into account.

> *Assume a spherical cow.*
> *– A traditional joke about theoretical physics*

Density and Weight

Races made of denser or more tenuous materials than flesh weigh more or less than animals of equal volume. Density is specified as a multiple of that of water. Find this on the *Density Table* (below) to learn the "density modifier": an adjustment to the race's SM when determining its weight and HP, and also its ST, but *not* its longest dimension. If density falls between two multiples, use the next-higher modifier. To extend the table, multiply or divide density by 10 for each two steps – but no natural chemical substance has a density above 30!

Denser-than-water beings can purchase ST and HP with the Density limitation: -5% per +1 density modifier. This reflects such inconveniences as being unable to float, sinking into soft ground, and having furniture collapse. It amounts to a leveled Nuisance Effect, as it doesn't also include being more easily seen or targeted.

For *exact* values, multiply weight by the actual density factor, as given in *Densities of Materials* (p. 19). Multiply both HP and ST by the cube root of the density factor.

The density of a living creature is close to that of the solvent its metabolism is based on. For example, a human-sized alien using liquid helium as its solvent would have density 0.145 and density modifier -1. It would get no reduction in the cost of its ST or HP. This is often true of undead beings, too, but some weigh less in proportion to their scale (*Postmortal,* p. 21).

The density of a Homogenous being equals that of the material it's made from. For example, a human-shaped stone figure might have density 2.4 and density modifier +1, letting it buy ST and HP at -5%.

Things get more complicated for machines. Their designs can include hollow spaces, filled with lighter materials such as air or even with vacuum. Many machines, particularly vehicles, are between density 0.3 and 1.0: light enough to float (unless they leak!). For similar reasons, lighter-than-air vehicles have density slightly lower than 0.0012. For other vehicles, it's less straightforward: The weights of actual vehicles can often be looked up, but their exact volumes can't – and their shapes are too irregular for volume calculations. To get a workable estimate, divide the vehicle's *unloaded weight* by the weight in the *Size and Weight Table* (p. 13).

Example: A World War II Panzer IV (***GURPS High-Tech,*** p. 238) has SM +4; the weight for this SM is 6 tons. The Panzer has LWt. 27.5 tons and Load 1.1 tons; the difference is 26.4 tons. Dividing 26.4 by 6 gives density 4.4. This is above the upper limit of +1 to equivalent SM; we give the tank +2. It has Density, -10% – in addition to Size, -40% – when buying ST and HP. With ST 150 (figured from unloaded weight), its racial template includes ST+140 (Density, -10%; No Fine Manipulators, -40%; Size, -40%) [280].

Density Table

Density Multiple	*Density Modifier*	*Density Multiple*	*Density Modifier*
0.001	-6	0.3	-1
0.003	-5	1	0
0.01	-4	3	+1
0.03	-3	10	+2
0.1	-2	30	+3

Densities of Materials

Substance	*Density*	*Equivalent SM*	*ST/HP Limitation*	*Notes*
Solvents				
Liquid Helium	0.145	-1	–	
Liquid Hydrogen	0.07	-2	–	
Liquid Ethane	0.54	0	–	
Liquid Methane	0.42	0	–	
Liquid Ammonia	0.68	0	–	
Water	1	0	–	
Sulfuric Acid	1.8	+1	-5%	
Liquid Sulfur	1.8	+1	-5%	
Magma	2.2-2.8	+1	-5%	
Liquid Iron	7	+2	-10%	[1]
	12.2	+3	-15%	[2]
Elemental Materials				
Air	0.0012	-5	–	[3]
Earth	1.1-1.6	+1	-5%	
Fire	0.0003	-6	–	
Ice	0.9	0	–	
Metal	7.9	+2	-10%	[4]
	8.9	+2	-10%	[5]
Stone	2.4-3.0	+1	-5%	[6]
	3.5	+2	-10%	[7]
Wood	0.5	0	–	

Notes

[1] At surface.
[2] At outer/inner boundary of Earth's core.
[3] At sea level.
[4] Iron or steel.
[5] Bronze.
[6] Typical.
[7] Diamond.

Composition

Beyond density, different materials have different physical and chemical properties. These may confer advantages and disadvantages.

Biochemical

For living organisms, the main differences are *biochemical:* what kinds of chemical reactions their solvent and complex molecules are capable of. Non-water-based life forms don't take Unusual Biochemistry – their composition is so different that human food or medication would never be beneficial and could well be toxic. Treat this as a standard taboo trait.

Some solvents are strongly acid or alkaline. The bodily fluids of life forms using these solvents can inflict corrosion damage like that from concentrated acids (p. B428). However, water and neutral aqueous solutions act on *them* as alkalis or acids, respectively, doing similar damage.

Helium-Based Life Form: Based on exotic molecules dissolved in liquid helium. Damage Resistance 20 (Limited, Electricity, -40%) [60]; Doesn't Breathe (Anaerobic; Oxygen is Toxic) [0]; Native Illumination 0.01 lux [0]; Thermal Comfort Zone -456°F to -454°F [0]; Vacuum Support [5]. *65 points.*

Worked Example: Putting Together Scale, Gravity, and Density

A race's size, weight, HP, and ST can be affected by its scale, native gravity, and composition. To see how these fit together, consider the Ymirites, a race with liquid hydrogen as their solvent, native to a world with surface gravity 1.75G.

- *Scale* can be chosen freely. The Ymirites have SM +2, affecting size, weight, HP, and ST.
- *Gravity* of 1.75G gives +1 to *effective* SM for ST and -2 to *actual* SM.
- Hydrogen has *density* 0.07, giving -2 to *effective* SM for weight, HP, and ST.

The Ymirites end up with actual SM 0; effective SM 0 for weight and HP; and effective SM +1 for ST. This gives longest dimension 2 yards, weight 125 lbs., HP 10, and ST 15; that's equivalent to ST+5 [50] and HP-5 [-10], for a net 40 points. Gravity gives ×1.5 Basic Speed; taking this as 7.50 gives Basic Speed+2.50 [50]. Gravity 1.75 × longest dimension 2 yards is 3.5, for Basic Move 7 (worth 0 points).

If we use the precise formulas, SM +2 for scale gives ×10 weight, corresponding to ×2.15 size, ST, and HP. Density gives ×0.07 weight and ×0.41 ST and HP. Gravity gives ×0.57 size and ×1.32 ST. The Ymirites end up with ×1.23 size, or 2.46 yards, for SM +1; ×0.7 weight, or 88 lbs.; ×0.88 HP, for HP 9; and ×1.16 ST, for ST 12. Their native weight is 154 lbs. Their Basic Speed is ×1.32; rounding this to 6.50 gives Basic Speed+1.50. Gravity 1.75 × longest dimension 2.46 yards is 4.31, for Basic Move 7, giving Basic Move+1.

Hydrogen-Based Life Form: Based on silanols (analogs of alcohols based on silicon rather than carbon) dissolved in liquid hydrogen. Doesn't Breathe (Anaerobic; Oxygen is Toxic and Corrosive) [0]; Native Illumination 0.2 lux [0]; Thermal Comfort Zone -431°F to -427°F [0]. *0 points.*

Methane- or *Ethane-Based Life Form:* Based on lipids (fat-like compounds) dissolved in liquid hydrocarbons. Damage Resistance 10 (Limited, Electricity, -40%) [30]; Doesn't Breathe (Hydrogen-Breathing; Oxygen is Toxic) [0]; Native Illumination 20 lux [0]; Thermal Comfort Zone -283°F to -272°F (methane) or -239°F to -184°F (ethane) [0]. *30 points.*

Ammonia-Based Life Form: Based on carbon/nitrogen polymers dissolved in liquid ammonia. Doesn't Breathe (Hydrogen-Breathing; Oxygen is Toxic and Corrosive) [0]; Strongly Alkaline [0]; Thermal Comfort Zone -82°F to -54°F [0]. *0 points.*

Water-Based Life Form: Based on proteins and nucleic acids dissolved in water. *0 points.*

Chlorine-Based Life Form: Based on proteins and nucleic acids dissolved in water/chlorine solution. In the presence of oxygen, such beings must make a HT roll every 24 hours to avoid 1 point of toxic damage. Doesn't Breathe (Chlorine-Breathing; Oxygen is Suffocating) [5]; Mild Toxicity (Oxygen) [-1]; Strongly Acid [0]. *4 points*.

Sulfuric Acid-Based Life Form: Based on silicones dissolved in sulfuric acid. Native Illumination 500 lux [0]; Strongly Acid [0]; Thermal Comfort Zone 262°F to 427°F [0]. *0 points*.

Sulfur-Based Life Form: Based on silicones dissolved in liquid sulfur. Doesn't Breathe (Hydrogen Sulfide-Breathing; Oxygen is Toxic) [0]; Native Illumination 2,000 lux [0]; Thermal Comfort Zone 453°F to 618°F [0]. *0 points*.

Magma Life Form: Based on silicates dissolved in molten rock. Damage Resistance 10 (Limited, Electricity, -40%) [30]; Doesn't Breathe (Anaerobic, -0%) [20]; Native Illumination 10,000 lux [0]; Thermal Comfort Zone 1,685°F to 2,015°F [0]. *50 points*.

Iron-Based Life Form: Based on magnetic domains in molten iron/sulfur compounds. Affected by Magnetism [-1] Doesn't Breathe (Gills; Sulfur-Breathing; Oxygen is Toxic and Corrosive) [0]; Native Illumination 10,000 lux [0]; Thermal Comfort Zone 3,634°F to 4,349°F [0]. *-1 points*.

Technological

Vehicles, robots, and other machines are usually made of combinations of materials. Their HP primarily reflect the strength of their structural frames, however, and what those frames are made of mainly determines their physical and chemical properties. Different structural materials are prevalent at different TLs. Technological meta-traits don't include ST, HP, or DR, as those vary with a mechanism's size and weight, as discussed in the preceding sections.

Wooden Structure (TL0-6): Based on seasoned wood. Damage Resistance 5 (Limited, Electricity, -40%) [15]; Fragile (Combustible) [-5]. *10 points*.

Iron/Steel Structure (TL5-8): Based on ferrous metals and alloys. Affected by Magnetism [-1]; Affected by Rust [-1]. *Notes:* May be galvanized to remove Affected by Rust. *-2 points*.

Light Metal Structure (TL6-12): Based on aluminum, titanium, or other metals or their alloys. *0 points*.

Polymer Structure (TL7-12): Damage Resistance 5 (Limited, Electricity, -40%) [15]. *15 points*.

Diamondoid Structure (TL11-12): Based on synthetic crystals structurally similar to diamond. Damage Resistance 10 (Limited, Electricity, -40%) [30]. *30 points*.

Elemental

An *elemental* is a being made up of a single homogenous substance, animated by magic or other supernatural forces – a notion attributed to the 16th-century alchemist and pharmacologist Paracelsus, though parallel ideas exist in other cultures. *Densities of Materials* (p. 19) lists elemental substances; adjust weight, HP, and ST accordingly, but note that the animating energy may lend cohesion to diffuse or granular substances, so that HP *don't* depend on mass. Beings of earth, metal, and stone typically have Cannot Float, but those with hollow interiors can be exceptions.

Body of Air: Your body is made of air or another gas, given cohesion by magic. ST 0 [-100]; HP+10 [20]; Doesn't Breathe [20]; Flight (Lighter than Air, -10%) [36]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse) [100]; No Legs (Aerial) [0]; No Manipulators [-50]; Taboo Trait (Fixed ST) [0]; Vulnerability (Vacuum and Wind ×2) [-20]. *36 points*.

Body of Earth: Your body is made of sand, soil, or clay. Doesn't Breathe [20]; DR 2 [10]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse) [100]; Pressure Support 2 [10]; Vacuum Support [5]. *Notes:* This meta-trait differs from that on p. B262. It lacks Invertebrate, to allow for humanoids such as golems with bodies of clay. It isn't Sealed, having a granular texture, which also makes it vulnerable to extreme pressures, limiting it to Pressure Support 2. *175 points*.

Body of Fire: Your body is an animate flame! If your flames are very hot, increase Burning Attack and DR. ST 0 [-100]; HP+10 [20]; Burning Attack 1d (Always On, -40%; Aura, +80%; Melee Attack, Reach C, -30%) [6]; Doesn't Breathe (Oxygen Combustion, -50%) [10]; DR 10 (Limited, Heat/Fire, -40%) [30]; Fuel Supply [0]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse) [100]; No Legs (Slithers) [0]; No Manipulators [-50]; Taboo Trait (Fixed ST) [0]; Weakness (Water; 1d/minute) [-40]. *Notes:* Fire elementals have a variant form of Fuel Supply: If deprived of fuel, they *do* lose FP, followed by HP, and they *can* "starve to death," after which providing more fuel doesn't bring them back to life. *6 points*.

Body of Ice: Your body is made up of ice. Doesn't Breathe [20]; DR 3 [15]; Fragile (Brittle) [-15]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Homogenous; No Blood) [45]; Pressure Support 3 [15]; Sealed [15]; Slippery 3 [6]; Terrain Adaptation (Ice) [5]; Vacuum Support [5]; Vulnerability (Heat/Fire ×2) [-30]; Weakness (Intense normal heat; 1d/minute; Variable, -40%) [-12]. *99 points*.

Body of Metal: Your body is made up of metal. Doesn't Breathe [20]; DR 9 [45]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Homogenous; No Blood) [45]; Pressure Support 3 [15]; Sealed [15]; Vacuum Support [5]. *Notes:* The quirks Affected by Magnetism and Affected by Rust (p. 46), while optional, suit *ferrous* metal bodies. *175 points*.

Virtual and Illusory Beings

Infomorphs and intangible spirits may have the *appearance* of physical beings, through magic or the image-projection capabilities of a cybershell an infomorph is inhabiting (such as a computer). For an infomorph, give the *cybershell* the Illusion advantage (from ***GURPS Powers***). A spirit can have the Illusion advantage as well, possibly with Mental, as a magical ability – or it may simply be able to turn off its Invisibility and reveal its true form.

Such forms can neither act on the physical world nor be damaged by physical attacks. Physical images *can* create light or sound, but not at levels that overload the senses (see *Attack,* p. 29). A race with only one apparent form buys racial appearance and voice normally. One that can project varied forms pays for the most favorable appearance and voice it can assume; comparable or worse apparent forms cost no points.

Body of Stone: Your body is made up of rock, either as a solid mass or broken up into gravel. Doesn't Breathe [20]; DR 5 [25]; Fragile (Brittle) [-15]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Homogenous; No Blood) [45]; Pressure Support 3 [15]; Sealed [15]; Vacuum Support [5]. *140 points.*

Body of Water: Your body is made up of water or a liquid that can be mixed with water. Amphibious [10]; Constriction Attack [15]; Doesn't Breathe [20]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse) [100]; Invertebrate [-20]; Pressure Support 3 [15]; Slippery 5 [10]; Vulnerability (Dehydration ×2) [-10]. *170 points.*

Body of Wood: Your body is made up of wood; this can apply to either a wooden figure or a living tree. DR 2 [10]; Injury Tolerance (Homogenous; No Blood) [45]. *Notes:* If not a living tree, add Doesn't Breathe [20]; Fragile (Combustible) [-5]; Immunity to Metabolic Hazards [30]; Pressure Support 2 [10]. *55 points (living) or 110 points (nonliving).*

Energy

Beings made out of cohesive energy are basically a variant of elementals, but they're usually science fiction rather than fantasy (though it's hard to make the science rigorous). Often they're portrayed as evolutionarily advanced races and/or inhabitants of outer space, perhaps feeding on sunlight or cosmic radiation. They can be affected by conditions and technology that affect the energy that makes them up; for example, beings of light can be wounded by lasers, reflected by mirrors, or absorbed by dark materials (treated as entanglement). This adds the Elemental power modifier (***GURPS Powers,*** p. 27) to Injury Tolerance (Diffuse).

Body of Electricity: ST 0 [-100]; HP+10 [20]; Affected by Magnetism [-1]; Cannot Speak [-15]; Doesn't Breathe [20]; Electrical [-20]; Flight [40]; Generator [1]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse; Elemental, -10%) [90]; No Legs (Aerial) [0]; No Manipulators [-50]; Pressure Support 3 [15]; Signals (Electrical Pulses) [15]; Taboo Trait (Fixed ST) [0]; Vibration Sense (Active Electroreception) [10]. *Notes:* For ST 0 beings with the Generator perk, sustained power output in watts is (HT×HT)/5, and short-term exertions require a HT roll. *55 points.*

Body of Light: ST 0 [-100]; HP+10 [20]; Detect (Light; Analyzing, +100%; Reflexive, +40%) [24]; Doesn't Breathe [20]; Flight (Space Flight, +50%) [60]; Illumination [1]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse; Elemental, -10%) [90]; Mute [-25]; No Legs (Aerial) [0]; No Manipulators [-50]; Pressure Support 3 [15]; Signals (Blinker) [15]; Taboo Trait (Fixed ST) [0]; Vacuum Support [5]. *105 points.*

Body of Sound: ST 0 [-100]; HP+10 [20]; Doesn't Breathe [20]; Flight [40]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse; Elemental, -10%) [90]; Invisibility [40]; Mimicry [10]; No Legs (Aerial) [0]; No Manipulators [-50]; Pressure Support 3 [15]; Sonar (Extended Arc, 360°, +125%) [45]; Taboo Trait (Fixed ST) [0]. *160 points.*

Postmortal

Several meta-traits reflect being a dead person who still walks the Earth, or haunts part of it. The existence and condition of the remains dictate which meta-trait to use. All omit traits that might be expected but aren't universal – notably Doesn't Sleep, Fragile (Unnatural), Not Subject to Fatigue, and Unhealing.

Some remains weigh less than the living person: Divide weight by 4 for desiccated bodies or skeletons (skeletons are also Skinny), by 25 for ashes. Retain the original volume and SM (if compacted, ashes have -3 to SM). For skeletons and ashes, the original weight is the weight *before* applying Skinny, Overweight, Fat, or Very Fat.

Worked Example: Skeletal Bodies

Alice Fong, when alive, had ST 8, stood 5'3", and was Overweight at 150 lbs. After her death, she became a walking skeleton. Her corresponding average weight is 115 lbs. (150 lbs. divided by 1.30). Dividing this by 4 gives 29 lbs.; applying the 2/3 multiplier for Skinny gives 19 lbs. The corresponding HP score for an Unliving character is 11. The ST score is the same – but Alice has -2 to ST to resist knockback, for effective ST 9.

Ashen Undead: The ashes of someone who was burned to death or cremated, in a semi-cohesive cloud. Doesn't Breathe [20]; Doesn't Eat or Drink [10]; High Pain Threshold [10]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Diffuse; No Eyes) [105]; Sterile [0]; Temperature Tolerance 10 [10]; Unaging [15]. *200 points.*

Intact Undead: A dead body that hasn't decayed significantly. Doesn't Breathe [20]; High Pain Threshold [10]; Immunity to Metabolic Hazards [30]; Injury Tolerance (Unliving) [20]; Sterile [0]; Supernatural Features (No Body Heat; No Pulse; Pallor) [-20]; Temperature Tolerance 10 [10]; Unaging [15]. *Notes:* Doesn't Eat or Drink [10] and Injury Tolerance (No Blood) [5], though common, are absent in the archetype: the vampire. Potential Form (Rotting Undead) [0] is also widespread, but some entities are mystically preserved. *85 points.*

Mummified Undead: A body that has dried out rather than rotting. Appearance (Monstrous; Universal, +25%) [-25]; Doesn't Breathe [20]; Doesn't Eat or Drink [10]; Fragile (Combustible) [-5]; High Pain Threshold [10]; Immunity to Metabolic Hazards [30]; Injury Tolerance (No Blood; No Brain; No Vitals; Unliving) [35]; Social Stigma (Dead) [-20]; Sterile [0]; Temperature Tolerance 10 [10]; Unaging [15]. *80 points.*

Rotting Undead: A body that has been dead long enough to decay significantly. Appearance (Monstrous; Universal, +25%) [-25]; Bad Smell [-10]; Doesn't Breathe [20]; Doesn't Eat or Drink [10]; High Pain Threshold [10]; Immunity to Metabolic Hazards [30]; Injury Tolerance (No Blood; Unliving) [25]; No Sense of Smell/Taste [-5]; Potential Form (Skeletal Undead) [0]; Sexless [-1]; Social Stigma (Dead) [-20]; Temperature Tolerance 10 [10]; Unaging [15]. *59 points.*

Skeletal Undead: A body that has been reduced to bones, held together by dried tendons or magic. Basic Speed+1.00 [20]; Appearance (Monstrous; Universal, +25%) [-25]; Cannot Float [-1]; Doesn't Breathe [20]; Doesn't Eat or Drink [10]; DR 2 [10]; Fragile (Brittle) [-15]; High Pain Threshold [10]; Immunity to Metabolic Hazards [30]; Injury Tolerance (No Blood; No Brain; No Eyes; No Vitals; Unliving) [40]; No Sense of Smell/Taste [-5]; Sexless [-1]; Skinny [-5]; Social Stigma (Dead) [-20]; Temperature Tolerance 10 [10]; Unaging [15]; Vacuum Support [5]; Vulnerability (Crushing ×2) [-30]. *68 points.*

Chapter Three
Choosing Traits

After making the initial choices, it's time for a full racial design. Just as with a new invention (pp. B473-474), this involves two steps: coming up with a concept and then creating a model – a racial template. Building the template includes figuring out all the point costs involved and summing them up. This chapter discusses the "how to"; for examples, see Appendix B.

Not all character traits work well in racial design. Traits such as Dwarfism and Lame are *defined* as individual rather than racial. Many social traits – especially those reflecting relationships to specific people, like Allies and Enemy – fit individuals rather than populations. Traits that alter the flow of the game – such as Extra Life, Luck, Serendipity, and Weirdness Magnet – are primarily designed to apply to individual characters, and it's also hard to rationalize their being inheritable.

Conceptual Design

For a race to make sense, it needs a unifying concept – a single theme that all of its traits reflect, so that they're consistent with each other. Usually, no one trait will capture this. Rather, it's a more abstract idea reinforced by *several* crucial traits without being fully defined by them.

It's important to make sure that secondary traits are consistent with the high-priority traits. But this is only a tool for making sure they're consistent with the basic concept. And it's best to be cautious in adding other traits, to avoid complicating the design and obscuring its basic idea.

Fitting the Race to the Campaign

Even more basically, a *campaign* has a setting and a theme.

The setting mainly provides limits on what kinds of races are plausible. Some of these are physical: A campaign set in an asteroid belt mining community makes it hard to have plausible aquatic life forms or water spirits. Other limits stem from the way the world works. In a preindustrial setting, digital intelligences and cybershells don't fit (though there might be artificial beings such as Talos, the bronze giant who guarded Crete in Greek legend). In a near-future technothriller, there won't be spirits or magically created beings (though in a cyberpunk campaign, analogs of both might exist in cyberspace). Nonhuman races are part of the fantastic aspect of a world, and need to fit the premise that supports that.

The theme may make some kinds of races necessary. For example, in an apocalyptic campaign where advanced technology threatens human survival, robots will be designed for combat functions, and many are likely to be vehicular rather than humanoid. In a campaign about fear of the unnatural, subtler robots may impersonate people: technological doppelgangers that outwardly appear human. In a campaign about civil rights and political oppression, robot workers might petition for self-ownership or seek protection from human mobs; they may be approximately human-shaped but visibly mechanical. Different robot "races" would fit these different campaigns.

In a tightly focused campaign, races may exist only to play roles that support the theme, and be narrowly limited to such roles. With a broader focus, races may appear in roles contrasting with the main theme, or exploring implications of the setting's premise, and only incidentally involved with the storyline. Some fictional worlds have both treatments. In Tolkien's Middle-Earth, elves and dwarves had business of their own with little relation to the troubles of men and hobbits, but orcs were purely an enemy race – though later in his life, Tolkien had doubts about this and speculated about whether orcs might be capable of moral choice and redemption. Deciding how narrow or broad a campaign's focus will be can help decide how many races to create, and what kinds.

Sets of Races

Some campaigns will have only one nonhuman race: First-contact stories may have a single alien species, horror may have a single type of werewolf or zombie, and so on. But if one nonhuman race is possible, others may well be.

If a setting is to have multiple races, it works better if they form some sort of coherent scheme. Having arbitrary races with no relation to each other doesn't make for an easily grasped premise for the setting. Having races with overlapping abilities, appearances, and concerns means that any one race's role is hard to define. It's best if the different races divide up the possible roles in a systematic way.

Ecological

Living organisms usually have traits that fit their means of survival. This reflects their habitat, which in ***GURPS*** terms is the *terrain* to which they're best adapted, as described for Survival skill (pp. B223-224). Terrains are defined for Earthlike worlds, but planets of other types can have analogous terrains inhabited by alien races. A suite of races can be distinguished by having one inhabit plains, another woodlands, another deserts, and so on.

The same principle can be applied to spirits associated with the natural world. The ancient Greeks, for example, distinguished *dryads* (spirits of trees, especially oak trees), *naiads* (spirits of springs and rivers), *nereids* (spirits of the sea), *oreads* (mountain spirits), and other sorts of nymphs, each with their own characteristic habitat.

For life forms, but not often for spirits, distinctions can also be made for other biological traits. Size can differentiate otherwise similar races; for example, humanoid beings could be giants or dwarfs, or several different sizes of each with different SMs. (Don't give such races Gigantism or Dwarfism, which are for abnormally large or small members of a race, not for races that are *normally* large or small.) Races could also be distinguished by primary means of movement – such as running, climbing, flying, and swimming – probably with different morphologies (pp. 9-11). Day and night races – and perhaps crepuscular races active at dawn and dusk – might coexist. Yet another way to split things up is by means of sustenance: herbivores, omnivores, carnivores, specialized types such as filter feeders or nectarivores, and perhaps photosynthesizers – probably with different types of mouths and sense organs, and often with different behavior.

Functional

Machines don't usually have to provide for their own survival; they're powered, maintained, and repaired by a technological infrastructure. They do have to be adapted to the planetary type and terrain where they're expected to operate, however. But multiple races may exist in a single habitat that they share with their human (or nonhuman) users. What distinguishes them is the job they're designed for. For example, both ***Transhuman Space*** and ***GURPS Ultra-Tech*** offer different types of robots engineered to play varied roles, from housework to surgery to battlefield combat. Potentially, there could be a huge number of machines in a suite, but it's usually convenient to define broader types, such as "ground combat robot," and assume that any machine that's treated as a character has enough flexibility to be adapted to varied tasks.

Similar logic can be applied to some biological organisms. Bioroids are often designed for specialized types of tasks; e.g., there might be attractive "social interface" models, or hazmat models with resistance to poisons, disease, radiation, or the like. Modified human races won't usually be as drastically engineered, but can have physical or mental enhancements that favor specific occupations, and personality traits to go with them.

Thematic

In a campaign with supernatural elements, races might reflect archetypes or other abstractions. For example, Christian art depicts angels with birdlike wings and beautiful features, and devils (that is, fallen angels) with bat wings, horns, hooves, and barbed tails, as figures of Good and Evil. ***GURPS Thaumatology*** lists varied groups of archetypes, such as the four classical Western elements, the five Chinese elements, the seven astrological "planets" (the Sun, the Moon, Mars, Mercury, Jupiter, Venus, and Saturn), and the signs of the zodiac. Any of these might be the basis for a suite of spirits or embodied spirits; e.g., elemental spirits of earth, water, air, and fire.

Perks and Quirks

Perks and quirks don't count for much points-wise, but they can be a helpful part of racial design. Full-blown advantages and disadvantages often have extreme effects on behavior, or confer abilities so potent that they're suited only to super-races. But a few traits worth ±1 point can help make a race distinctive.

Exotic perks (***GURPS Power-Ups 2: Perks,*** pp. 9-12) can add to a race's capabilities and make it clear that they're not just cosmetically modified humans. The various Accessory perks are a good fit to machine characters; many are close equivalents to other exotic perks that fit biological races. There aren't nearly as many exotic quirks (***GURPS Power-Ups 6: Quirks,*** pp. 12-13), but they can help define a race more fully as well. See also Appendix A for a few new perks and quirks suited to racial templates.

Quirks also play a big part in defining racial mentalities. See *Motivation and Behavior* (pp. 31-33) for suggested mental quirks for races of various types.

Lenses and Sub-Races

Some races have sub-races with distinctive traits. Domesticated animals have breeds, which many be as different as a greyhound and a bulldog; robots and other machines have variant models, whether for special purposes, or basic and advanced; aliens may have diversified into subspecies. Such things can be represented with *lenses:* specialized templates that aren't meant to be used by themselves, but to be added to other templates. The definition of lenses is a way to provide choices within a racial template (see *Character vs. Racial Templates,* p. 5).

Most lenses represent additional biological, mechanical, or supernatural traits. Players can choose lenses but don't normally get choices *within* a lens. However, a race may also have varied cultures, each with its own cultural lens, and such lenses might allow some choices; see *Cultural Templates* (***GURPS Template Toolkit 1: Characters,*** p. 5).

Some biological races have sexual dimorphism extreme enough that males and females are effectively different races. In this case, each sex has its own template. This also applies to hive species with multiple castes, such as social insects with queens, drones, workers, and soldiers.

Attributes, Secondary Characteristics, and Talents

Every race has attribute and secondary characteristic modifiers – though these are noted only if nonzero. Talents are optional, but often useful. In brief:

- A race's ST, DX, IQ, and HT modifiers are based on the difference between its average attribute score and the human average of 10. Their cost is that of buying the average attribute. For example, if a race of 20'-tall sapient allosaurs has average ST 35, this is shown as ST+25 (Size, -30%) [175]. "As good as the average human" is a 0 modifier and costs 0 points.
- For secondary characteristics, figure the base value from racial attributes; there's no cost for this score. But if the secondary characteristic is higher or lower than the base value, that's shown as a racial modifier, with a cost equal to that of taking the modifier for an individual character. For example, the sapient allosaurs above would have a racial HP value of 35; if they were exceptionally hard to kill, with average HP 40, they would have racial HP+5 (Size, -30%) [7].
- Racial Talents are bought just like individual Talents, and at the same cost.

A race's ST and HP are based on its physical size and weight, as discussed in Chapter 2. They can be as high as is needed to fit these (the largest reported whale weighed 190 tons, giving it HP 145!). Some beings are too small to have meaningful ST or HP scores; an animal weighing 2 ounces would have exactly HP 1, and one weighing less than 0.25 ounce would have less than HP 0.5, which would round down to 0. (*Any* injury automatically kills a being with 0 HP.)

Most other attributes and secondary characteristics don't have straightforward physical interpretations that could require extraordinarily high values. Their main functions are as target values for success rolls on 3d, and in determining skill levels that also act as target values. ***GURPS*** limits characters other than godlike beings to an attribute range of 1 to 20 (see p. B14), corresponding to attribute modifiers from -9 to +10. For races whose members might be PCs, modifiers from 0 to +6 allow competence at the tasks they apply to; races comparable to humans should have modifiers between -2 and +2, indicating a marginally lower or higher capability.

Intelligence (IQ) is something of an exception. Sapient beings have IQ scores of 6 or higher, but lower IQ scores are possible for nonsapient animals or machines. As a guideline: IQ 1 fits reflex-guided animals, such as most invertebrates; IQ 2 fits fish and reptiles; IQ 3 fits most birds, and less intelligent mammals, such as many herbivores; IQ 4 fits more intelligent mammals, such as most carnivores; IQ 5 fits elephants, monkeys, some parrots and songbirds, and possibly octopuses; and IQ 6 may be appropriate to chimpanzees and gorillas. To cover tasks and challenges where such creatures aren't hopelessly handicapped, give them racial Per and Will bonuses that compensate for and perhaps exceed racial IQ penalties. For example, a tiger (p. B456) would have IQ-6 but also Per+8, for a net +2!

One secondary characteristic, Basic Move, *does* reflect a measurable physical trait: the speed of a race's movement (by land, water, or air). Information on this is often available for animals or vehicles. Vehicular top speeds don't usually translate directly into Basic Move. If the information is available, divide top speed in mph by the number of seconds of acceleration needed to reach it, to find an average mph increase per second; dividing this by 2 gives its Acceleration score, which is equivalent to its Move. (See *Movement,* pp. 27-28, for Enhanced Move.) Similar estimates may be possible for fast-moving animals, such as cheetahs and many birds; for others, assume that sprinting move is 120% of Move and paced running is half of that (see p. B354), and equate this with the recorded top speed or sustained movement speed, respectively. If this is different from Basic Speed, as estimated (usually) from DX and HT, treat the race as having a bonus or penalty to Basic Move.

*To have the proportionate strength of a spider, you need to have the proportionate **size** of a spider.*

Some races have advantages that are effectively specialized versions of attributes or secondary characteristics. Lifting ST suits beasts of burden, cargo vehicles, and other heavily built races; Striking ST is less common, but may be found in races that deliver rapid blows. Arm ST fits races that brachiate or burrow – but for races with relatively weak arms, such as some centauroids, apply *Modifying Beings With One or Two Arms* (p. B53) to the Weak limitation for Extra Arms (e.g., a centaur whose two arms have half the ST of their equine body would convert a -25% limitation to -5 points for two arms). Arm DX works similarly; for modifiers to hands or equivalent parts, see *Manipulation* (p. 28). Acute Senses are best treated as specialized variants of Per (in effect, they have One Sense Only, -60%), affecting the efficiency with which sensory data is processed more than the physics of the sense organs (for that, see *The Senses,* pp. 26-27).

Talents provide a different sort of specialization. In effect, a Talent is a midpoint between an attribute or secondary characteristic and a skill based on it; it raises multiple skills and usually costs less than increasing the underlying attribute. Races with specialized interests or functions can plausibly have a Talent; for example, artificial intelligences or scientifically advanced aliens might have racial Mathematical Ability. It's also possible to define a racial Talent that benefits a group of skills associated with that particular race; ***GURPS Power-Ups 3: Talents*** gives several examples. Racial Talents can encompass groups of skills that don't obviously fit together, as long as that makes sense for a specific race. Any such Talents *require* GM approval and should usually be GM-designed, even if players are allowed to create new races (*Player-Designed Races,* p. 37).

Physical Traits

Most racial templates include physical traits. The exceptions are partial templates for infomorphs (p. 7) and animi (the mental part of embodied spirits, p. 8).

What traits count as "physical"? Human thought may be a physical process within the brain, and human intelligence and various personality traits are partly hereditary; robot thought would be a physical process within a computer. But if those are "physical" it's hard to see what would be "mental"!

For humans, the body outside the brain is physical. So are the existence of the brain, its structural integrity, and its biochemical state – being asleep, drugged, or comatose from brain injury is a physical condition. For robots, the same is true, but with "computer" in place of brain; in particular, the Complexity (p. 7) that lets a computer run a particular digital mind or infomorph is physical. If a sapient being can occupy a new physical body (say, via some form of Possession), it acquires that body's physical traits.

Sustenance

The most urgent need of most living organisms, and many machines, is oxygen (or other reactive molecules, for races from non-Earthlike planets). Without it, living organisms suffocate (pp. B436-437) and air-breathing engines lose power and stop running, as if reduced to 0 HP (p. B483). Suffocation can be delayed by Doesn't Breathe (Oxygen Storage) (p. B49). Machines can't normally "hold their breath," and don't use air in their interior as an oxygen source, but a similar ability can be bought as Doesn't Breathe with a Nuisance Effect worth -5%: needing a second set of tanks to hold the oxygen, and needing to recharge oxygen at the same time as fuel (it doesn't make sense mechanically to give a machine mismatched tanks).

Most animals breathe via lungs, gills, or other localized organs; internal combustion engines have devices such as carburetors. Steam engines can be treated as having Doesn't Breathe (Oxygen Combustion). Animals smaller than SM -6 can breathe via Oxygen Absorption or Oxygen Combustion; so can plants, thanks to the surface area of their leaves. Microorganisms that break down complex molecules without using oxygen have Doesn't Breathe (Anaerobic) (see *Atmosphere,* p. 15). Machines that don't use fuel have unmodified Doesn't Breathe.

Doesn't Eat or Drink eliminates the need for food and water; Reduced Consumption decreases it; and Increased Consumption (obviously!) increases it. Reduced Consumption can be defined as either Food Only or Water Only, for -50%. The same limitations can be applied to the other two traits; for example, vegetative races should have Doesn't Eat or Drink (Food Only), because plants still have to have water, as well as air and sunlight. As defined, these traits fit living races native to land habitats. Aquatic living races live *immersed* in water and would only take the Food Only versions; machine races with Fuel Supply typically use fuel *in place of* both food and water, so neither limitation applies – they pay the full cost for using more, less, or no fuel.

A separate issue is the *kind* of food or fuel a race uses. Races with Universal Digestion can digest any plant or animal material, or oxidize any combustible substance as fuel (*Making Things Burn,* p. B433). Races with no advantage or disadvantage are omnivorous, or can burn a wide range of organic fuels, such as wood, peat, and coal. Restricted Diet limits a race to a narrower range of food or fuel, or to using non-rechargeable batteries (treated as Very Common). Rechargeable batteries require spending time connected to an electric power source, which is common enough not to count as Restricted Diet; a "meal" is time spent recharging. Taking Reduced or Increased Consumption with Cast-Iron Stomach (p. 45) doesn't change the *range* of food, water, or fuel a race can use, but lets it use impure or contaminated forms without problems.

Some races get their energy from non-material sources that can't be classed as "food" or "fuel." The simplest way to represent this is as Doesn't Eat or Drink with appropriate limitations:

- Plant races can take Accessibility, Only with daily sunlight -10%. Treat a full day without sunlight as three missed meals. For plants, this is Food Only; they still need to take in water. Solar-powered machines take the same modifier without the Food Only limitation.

Scale and Food

For realistically scaled races, food or fuel consumption follows the square-cube law (*Realistic Scale,* p. 14). For example, a half-scale organism (SM -2) requires *one-fourth* as much food (0.5×0.5, the square of scale); but its stomach holds *one-eighth* as much (0.5×0.5×0.5, the cube of scale), so it needs twice as many meals a day (six rather than three) – the average interval between meals is *one-half* as long (four hours rather than eight), in proportion to scale, while the number of meals is in inverse proportion to scale.

Increased and Reduced Consumption are defined in terms of the number of meals, not their size or total weight. Small races have to eat or refuel more often, so they have Increased Consumption; a half-scale race would have Increased Consumption 1. Allowing half-levels of Increased Consumption for -5 points provides a closer fit to racial scale. Reduced Consumption doesn't fit as neatly; allowing one-half meal frequency for 1.5 levels, 10% for 2.5 levels, and 2.5% for 3.5 levels better represents intermediate larger sizes. For different-sized stomachs or fuel tanks, buy different levels of these traits. Being Cold-Blooded reduces food (but not water) consumption separately.

For cinematically scaled races, none of this applies; they eat three meals a day, scaled to their large or tiny stomachs, and don't take Increased or Reduced Consumption. Exceptions can be made for exaggerated scaling; for example, tiny fairies who eat only once a day take Reduced Consumption 2.

● Electrically powered machines without batteries take the Elemental power modifier, worth -10% (***GURPS Powers,*** p. 27). The mundane countermeasures include pulling the plug, throwing a main power switch, or shutting off a generator. As machines, they don't suffer from starvation; rather, they immediately stop running – but they can start again if power is restored.

● Magivores (living organisms that feed on magic) take the Magical power modifier, worth -10% (***GURPS Powers,*** p. 27). Treat a full day in a no-mana zone as three missed meals, or one in a low-mana zone as one missed meal. In very high mana, all FP spent are immediately restored.

There are still other possible requirements for survival. A race might have Dependency – for example, on an exotic atmospheric chemical, mana, or radiation (or, more mundanely, on water for a machine powered by an open-cycle steam engine, such as a locomotive). Supernatural creatures or exotic machines may have Draining; e.g., without blood, vampires weaken and die faster than humans without food. And artificial beings such as machines and synthetic life forms sometimes have Maintenance, falling apart without external upkeep. These traits *might* accompany the need to eat and drink, burn fuel, or photosynthesize – but not necessarily! Doesn't Eat or Drink often occurs alongside Dependency (Mana) for magical constructs such as golems and zombies, or Maintenance for machines with long-term power sources.

Increased Life Support represents a race's need for large or inconvenient equipment to survive in the campaign setting. Most often, this applies to alien races visiting a planetary environment (usually an Earthlike one) very different from that of their native planet, and severely hostile to them (see *Habitats,* pp. 15-18), or traveling in a vehicle that provides such an environment for the benefit of its other occupants. This is over and above the traits that represent the physiological or mechanical issues. A race that can sustain itself with the contents of a pocket, or with an environment suit no more awkward than winter clothing, doesn't take Increased Life Support – meeting its needs isn't inconvenient enough.

The Senses

A race's senses enable it to perceive the world, making it possible to move and act in an informed way. Races that lack senses either take no actions or carry out internally determined actions that aren't influenced by their surroundings. Some vehicles are an exception to this: If they have IQ 0 and Compartmentalized Mind (Controls), they act as an operator decides, and the *operator's* senses inform the decision.

Human beings can detect light, with vision; sound, with hearing; solid objects and temperature, with touch; and chemical substances, with smell and taste. Humans and other races get these for free. The frequency ranges of sight and hearing can be shifted up or down at no cost, or expanded by buying various advantages: Hyperspectral Vision, Infravision, Subsonic Hearing, Ultrahearing, or Ultravision.

For more exotic options, take Detect (to notice a substance, signal, or condition); Scanning Sense (to emit energy and recognize objects from the reflections); Telecommunication, possibly with Receive Only (to detect and *understand* signals, similar to hearing); or Vibration Sense (to "feel" objects without touching them). Detect normally operates only after a second of concentration, and detects only the nearest relevant source; add Reflexive, +40% to avoid both issues, giving something more like a biological sense. Scanning Sense and some forms of Vibration Sense are "active," emitting energy while in use, which others can detect.

Sapient races need to have a primary sense. For humans – and for many animals and aliens, and for robots and spirits that interact with humans – this is vision. Other human senses can be enhanced by taking the Discriminatory versions (or Sensitive Touch); this enables their use to identify specific objects, track their movements, or navigate the environment. There is no equivalent advantage for vision; the vision of primates, most birds, and cephalopods is *already* discriminatory, for 0 points. Other organisms may use Sonar or Vibration Sense (Active Electroreception) (p. 44) for the same purposes. Machines can have various forms of Scanning Sense, and spirits may have Detect (Analyzing). In a world with psionics, aliens or mutant humans may rely on abilities of the ESP power.

Hearing and touch are secondary senses for humans. Many species with camera eyes have vision as a secondary sense with poor resolution, such as typical "mammal vision"; see *Visual Impairment* (***GURPS Powers: Enhanced Senses,*** p. 12). Detect (especially with Signal Detection), Telecommunication (often with Receive Only), and Vibration Sense can be secondary senses for other sorts of beings.

Minor human senses include smell, taste, awareness of temperature, and awareness of pain. Balance can also be considered a minor sense, though Perfect Balance mainly affects movement (pp. 27-28). Detect (Vague) and Telecommunication (Vague, often with Receive Only) can represent minor senses of other beings.

Compound Eyes

Human and other primate eyes are much better than most camera eyes, but compound eyes – such as those of insects – are much worse. To represent this, give the race Blindness *and* Detect (Light) with the Precise enhancement. Treat light as Occasional, like radio *and* radar. This provides the ability to sense light sources, reflective patches, or spots of specific colors, and to tell the direction to them. This ability normally works in a 360° radius; it can be narrowed using the Restricted Arc limitation, worth -30% for 240°, -60% for 120°, or -75% for 60°.

Further modifiers can be applied to better fit the capabilities of specific organisms or machines. For example, mantis shrimp, with 12 different visual pigments, have Analyzing (+100%), adding 10 points to the cost – comparable to taking Discriminatory Taste, and allowing recognition of very specific colors.

A variety of disadvantages exist for races that lack human senses: Blindness, Deafness (or Hard of Hearing, for partial deafness), No Sense of Smell/Taste, and Numb. The lack of exotic biological senses such as Infravision or Vibration Sense, or technological capabilities such as Imaging Radar, isn't a disadvantage – humans lack those senses – but if a race has Infravision, for example, an individual member of that race who lacks it can take No Infravision as a disadvantage (see *Modification,* p. 37).

For *much* more on the senses, see ***GURPS Powers: Enhanced Senses.***

Gummitch was a superkitten, as he knew very well, with an I.Q. of about 160. Of course, he didn't talk. But everybody knows that I.Q. tests based on language ability are very one-sided.

– Fritz Leiber, "Space-Time for Springers"

Communication

Communication can be either precise, as with speech or sign language, or vague, limited to simple codes or general concepts and emotions, as with animal sounds or gestures. Sapient races need precise communication, both to interact with other sapient beings and to give structure to their own thoughts. Nonsapient races with IQ 1-5 (most animals) are capable only of vague communication. Races with IQ 0 (most vehicles) can't communicate at all, though they may have instruments that operators can read, or built-in telecommunications devices for operators to use.

Communication normally requires a physical channel. For human beings, this is primarily sound. Other races may have Mute if they can't make sounds at all, or Cannot Speak if they're limited to animal noises. Races that communicate on different frequencies may have Subsonic or Ultrasonic Speech; if they're *limited* to these frequencies, either is a 0-point feature.

It's possible to imagine races (typically alien) that use other channels based on the signaling mechanisms of animals, such as an octopus's color changes or a knifefish's electrical signals. This is defined as the advantage Signals (pp. 44-45).

Robots and other machine races can take most varieties of Telecommunication (but probably not Telesend); a very common option here is Cable Jack (p. 44). A robot or computer can have a built-in speaker for free, or a video display screen as an Accessory perk. The ability to project a *convincing* holographic image is Illusion (Visual Only, -30%); see ***GURPS Powers,*** pp. 94-95.

Sapient races with fine manipulators can express themselves with the Gesture skill or learn true sign languages (p. B25). Whole body movements such as the *waggle dance* of honeybees can convey messages in stereotyped codes; sapient races can use IQ-based Dancing similarly to Gesture, though less conveniently. (For sapient swarms – *Swarms,* pp. 14-15 – IQ-based Dancing is *more* convenient, and is the normal skill for conveying simple concepts.) Understanding sign languages requires human-comparable vision, an equivalent Scanning Sense, or Sensitive Touch; simpler messages require any version of Scanning Sense, touch, or vision (including Detect (Light) with Precise).

Alien races, or races of advanced humanoids, may be able to communicate psionically (see *Races and Powers,* p. 35). Spirits don't usually do this; some of them can speak for themselves, and embodied characters with Channeling can lend their voices to others.

Movement

Most races have some means of moving from place to place. Members of races that might join parties of adventurers *need* a way to travel! Beings with No Legs (Sessile) might be Contacts, but aren't likely Allies – much less PCs.

Races that *can* move may be able to do so in or on a variety of media:

Ground movement normally takes the form of walking and running; races without special traits, and amphibious races, are capable of this. If their speed is the same, races without legs can have No Legs (Bounces, Rolls, or Slithers), for 0 points. Races that move *slowly* have their Basic Move bought down; they might also have Taboo Trait (Fixed Basic Move) as a feature. Machine races often have the No Legs (Tracked or Wheeled) disadvantage. They may also have air cushions, like hovercraft; buy this as Flight with Low Ceiling (usually 5 or 10 feet), but it's effectively a form of ground movement – though it usually works over liquids, too. Races with No Legs (Semi-Aquatic) have reduced ground movement; those with No Legs (Aerial or Aquatic) have none.

Above-ground movement can be defined as climbing, and is often accompanied by Perfect Balance. This may be granted by a balancing organ such as a tail too small to count as an Extra Arm or Striker; such an appendage is targeted at -3 and takes injury as an extremity, and crippling it negates Perfect Balance. Clinging allows above-ground movement without Climbing rolls, and doesn't benefit from Perfect Balance. Buy faster movement as levels of Super Climbing. Brachiator allows a race with at least two arms to use them to swing from overhead handholds; this is considered aerial movement, and fast brachiation is bought as Enhanced Move (Air).

Underground movement can be bought as Tunneling – but only for super-races. Use the Burrower perk to represent realistic underground movement; this allows digging at a speed proportional to Basic Lift (see p. B350). Buy a *second* level of Burrower to allow breaking up hard soil or rock.

Underwater movement is possible without special traits, but at limited speeds (p. B18), and Swimming rolls are required. Races with Amphibious or No Legs (Semi-Aquatic or Aquatic) can swim at their Basic Move without these restrictions. For faster swimming, buy extra water Move (no more than two levels for races with restricted speeds) or Enhanced Move (Water). It's common for swimmers to rely on fins, webbed feet, paddlewheels, or propellers that can't be armored; this is a disadvantage (p. B145). Propulsion by pump jets, whether in squid or watercraft, is purely internal and can be bought as Enhanced Move. All these rules apply equally to living organisms with solvents other than water (see *Biochemicals,* pp. 19-20) swimming in bodies of those same solvents. Submersible machines are usually designed to have the same buoyancy as their fluid medium; high-density machines (or life forms!) sink to the bottom, but they can use ground movement there.

Surface water movement follows the same rules, but with the added disadvantage of inability to dive (p. B145). It's also possible for a race to be incapable of staying on the surface; this is the Cannot Float quirk. Vehicles or other machines that depend on sails for mobility – or life forms along the lines of a Portuguese man o' war – should have No Legs (Aquatic, Passive) (p. 46) and Sails (p. 45), which can't be armored. Sails as such don't prevent a race from diving, but if it has No Legs (Aquatic, Passive), it's at Move 0 when submerged. Walk on Liquid is an alternative – though only realistic for races small enough to have ST 0.

Air movement normally means Flight, fairly often alongside Enhanced Move. Highly maneuverable races are likely to improve air Move (p. B18); races that travel at high speeds on mostly straight courses should take Enhanced Move. Both living organisms and machines generally have Flight with Winged (a helicopter's rotors, for example, count as wings) and may also have Cannot Hover. Less fully aerial races might have the Gliding or Controlled Gliding modifier, often with enhanced jumping ability (see below) to assist takeoff. Machines or science-fictional races occasionally have Flight with Lighter Than Air. If a Nonautonomous lighter-than-air vehicle lacks a propulsion system, buy its air Move down to 0 and give it Taboo Trait (Fixed Air Move).

Space movement is Flight with Space Flight or Newtonian Space Flight – the latter, in most realistic campaigns. Races native to space often have Space Flight Only as well. Newtonian Space Flight suits races that rely on reaction mass; after their reaction mass is exhausted, they'll have to take on additional mass, perhaps from a gas cloud or a planet with microgravity. Space Flight suits races with light sails; these add Accessibility, Only in sunlight, -10% (sunlight is nearly omnipresent in space, at least in the inner solar system).

All of the preceding forms of movement are continuous, but many races are capable of discontinuous movement, or *jumping*. Basic jumping is possible for races without special traits; an average human can high jump 20 inches or broad jump 7 feet, or twice as far with a running start. Buy increased jumping capability as Super Jump; this usually represents propulsion by leg muscles, but Super Jump with Limited Use can represent built-in rocket thrust. Heavily built life forms or robots may be unable to jump; see *Cannot Jump* (p. 46).

Swimmers can't perform a standing jump out of water, but a fast swimmer can jump with a moving start, based on the number of yards it swims. This could also apply to a wheeled race that ascends a ramp. Fliers don't usually *need* to jump, but gliders can get into the air with a jumping start, taking off from either the ground or the water (like flying fish or some squid).

The ultimate in discontinuous movement is Warp, which is likely only for fantastic races.

Manipulation

Manipulators can take a variety of forms. In living organisms, they've evolved from such varied body parts as limbs, tails, and noses. Aliens or psionically gifted humans may manipulate things using psychokinesis or other powers (*Races and Powers,* p. 35). Machines (and prosthetic devices) so far have largely been restricted to simple grippers, hooks, or specialized tools – but the emergence of microprocessors has enabled much more sophisticated devices, and fictional robots may have humanlike hands or radically different and highly capable equipment.

Whatever its origins, in ***GURPS,*** a limb that supports manipulatory structures is an "arm." The standard racial design includes two of these. A race with more can take Extra Arms (p. B53), which can have modifiers for being longer, shorter, more flexible, or weaker than the body; if they're stronger, take Arm ST (p. B40). The standard two arms can be modified, too, using *Modifying Beings With One or Two Arms* (p. B53). This can make racial templates look complicated; e.g., a being with three long arms would have Extra Arms 1 (Long, +1 SM, +100%) [20] *and* Long Arms 2 (+1 SM) [20], but all three arms would be identical! A race with *one* arm takes One Arm (p. B147) and pays for the cost of any modifications to that arm. A race with *no* arms takes No Fine Manipulators (p. B145) – or No Manipulators, if it has no limbs at all.

Some races have dual-purpose limbs that act as both arms and legs. For apelike creatures with prehensile toes on their feet, this is Extra Arms modified with Temporary Disadvantage, Legless, -30%; see *Foot Manipulators* (p. B53). Birds such as parrots with wings and clawed feet can be treated as having two modified arms bought as Foot Manipulators. Bat-like creatures with claws on their wings buy the Flight advantage with Temporary Disadvantage, No Fine Manipulators, -30%, and pay for the claws as two modified arms; see *Vespertilian* (p. 10).

Some arms didn't start out as limbs, such as an elephant's trunk or a monkey's prehensile tail. These are normally taken as Extra-Flexible. The same applies to the arms of invertebrates such as octopuses.

A separate set of traits applies to the capabilities of the *manipulators*. If a race has nothing better than a mammal's paws or an insect's unbranched legs, treat this as No Fine Manipulators. If its manipulators are clumsy, take Ham-Fisted: one level for a gorilla's hands, two for a crab's claws. Superior manipulators have High Manual Dexterity. A race such as Moravec's proposed "bush robots" – with fingers branching into second-order fingers that then branch into third-order fingers and so on – would have Accessory (Micromanipulators) and should also have Sensitive Touch. A race can also have one or more levels of Bad Grip or Good Grip (p. 44). Don't give Bad Grip to a race that climbs habitually; the skill penalties are prohibitive!

There are two situations where a race without limbs shouldn't be treated as having No Manipulators. If a race has a mouth, as most biological races do, and its parts offer more extensibility, flexibility, and opposability than do human mouthparts (e.g., a parrot's beak and tongue), this can be pressed into service as an arm, usually Short and with No Physical Attack; if the creature has no other manipulators, treat this as One Arm. Mouths should usually have one level of Good Grip (with teeth or a beak), unless they have Weak Bite. A limbless race with Constriction Attack can use its entire body to grasp things; if it does, treat its body as a "limb" (giving it No Fine Manipulators rather than No Manipulators).

Mechanical races may be able to pick up ferrous objects magnetically, and the same may apply to some exotic alien races. Treat this as Telekinesis (Magnetic, -50%).

Attack

The ability to attack is inherent in the possession of arms (punching), legs (kicking), or teeth (biting). These body parts can also grapple. And the *whole body* can be used as a weapon in a slam.

To enhance these "free" attacks, add Claws or Teeth. A race with DR 3+ *without* Flexible, Force Field, or Tough Skin (see *Defense,* below) can get +1 to crushing damage from the Striking Surface perk.

Larger bonuses require a Striker, which can represent horns, tusks, or the like. Wings that can inflict damage *must* be paid for as Strikers (often Long) in addition to Flight (Winged); they can be attacked (pp. B552-553), or damaged by a parry. A heavy tail, or one with spikes or a sting, can also be attacked and damaged (p. B553); to represent this, add both a suitable Striker (possibly with Clumsy, Limited Arc, or Long) and the Tail feature (p. 12). For a smaller, lighter tail, take Striker with Weak, and treat it as an extremity rather than a limb.

For enhanced grappling ability, buy Constriction Attack. And to discourage enemy grapples and enhance slams, get Spines.

At the GM's option, races that lack some free attacks possessed by humans may substitute others. For example, an animal whose mouth lacks a biting surface (such as teeth or a beak) might instead have the ability to secrete digestive juices on its food, like a starfish, causing 1d-3 corrosion damage. An electrically powered machine might be able to inflict nonlethal electric shocks; a nuclear-powered one might emit low-level radiation (perhaps 1 rad/hour).

Buy any higher-powered attack as usual: as Affliction, Binding, or Innate Attack. Living organisms may use venom or electric shocks. Machines might have built-in firearms, liquid projectors, or – at higher TLs – energy weapons. For *many* worked examples, see ***GURPS Powers,*** pp. 136-145.

Defense

A race's defense against direct physical attacks is often based on its structural support – that is, its skeleton. Possibilities here include:

Complete External Skeleton: The *entire body* is covered with a rigid material that encloses its muscles and organs, or its working mechanisms. To allow motion, it has built-in joints. Treat this as Damage Resistance: bone, chitin, or bark with DR 2-6 for living organisms, or structural materials that may be much stronger for machines. This works like the skull of a human being, whose DR 2 must be overcome before the brain can be damaged. If the race has a head, and its entire body has the same DR as its skull hit location, then reduce DR there to 0 as DR -2 (Partial, Skull, -70%; Tough Skin, -40%) [-2] – abbreviated "No Skull DR" – before buying whole-body DR. Armor like this usually has ports for sensors, electrical connections, and/or ingestion, respiration, and excretion; if not, add Sealed. Such beings are usually Horizontal, but can't be Invertebrate in the ***GURPS*** meaning of the word.

Partial External Skeleton: Part of the body is covered with rigid material that protects its vital organs, like a mollusk's shell. This is Damage Resistance (Partial, Vitals, -30%). Such a race is Invertebrate, but can't squeeze through small openings, adding a Nuisance Effect that *increases* disadvantage value by +5%, to -21 points.

Internal Skeleton: The body has a rigid internal skeleton, like a vertebrate, or a load-bearing frame, like a ship. This is the standard option in ***GURPS.*** If there's a head, it has a skull with DR 2; the rest of the body gains no DR from its skeleton, but can add external armor. In organisms this is usually DR 1-4 (Tough Skin, -40%); shells can have DR 2-5, typically with Partial, Torso only. In machines it may be Flexible or Partial (for important hit locations), or the machine may have jointed external armor that isn't load-bearing; much higher DR values are possible. Such a race cannot be Invertebrate.

No Skeleton: The body is made up of flexible, possibly elastic tissues, gaining rigidity from internal hydrostatic pressure. Any DR has Tough Skin (in living organisms) or Flexible (in machines), and there should be no separate skull armor; take No Skull DR [-2]. Such races are normally Invertebrate.

Other races have bodies without separate structural elements; the entire body acts both as a skeleton and as armor. Represent this using one of the elemental meta-traits under *Elementals* (pp. 20-21). Such races often have Injury Tolerance (Homogenous); this is also appropriate for undead beings that have no functional internal organs (like a vampire's digestive system), but are simply masses of dead tissue. Beings made of liquids, gases, or particulates may instead have Injury Tolerance (Diffuse), taking only minimal damage from physical attacks. Entities with Insubstantiality, such as unmaterialized spirits, take no damage at all from normal physical attacks, but are harmed by attacks with Affects Insubstantial; they can usually harm *each other,* too, and it's perfectly possible for a spirit to have insubstantial armor.

Machines with complex structures have Injury Tolerance (Unliving) rather than Injury Tolerance (Homogenous). Those with power plants or batteries treat them as vital organs and won't have No Vitals. The bleeding rules can be used to represent leaks (letting in water or letting out air or gas), and machines that can leak shouldn't have No Blood. For the equivalent of No Eyes, see No Windows (p. 43). Machines, especially vehicles, may have Accessory (Lock) (p. 45).

The other major class of harmful agents is those resisted by an attribute, normally HT. Defenses against these usually involve making a race Resistant, which gives bonuses to HT for such rolls. Most forms of Resistant protect against categories of things that affect living organisms, all the way up to the broad category of metabolic hazards (all diseases and poisons, plus altitude sickness, the bends, seasickness, and other physiological conditions). Total Immunity, other than the narrowest sort such as to specific poisons or diseases, is rare; it usually reflects being a different basic type of entity, such as a machine or spirit with Immunity to Metabolic Hazards.

Machines and spirits, in turn, often have the ability to be affected by an unfavorable condition as a disadvantage; e.g., machines may have Electrical, making them vulnerable to power drainage and surges, while computers, infomorphs, or spirits with "true names" may be Reprogrammable. The absence of such a trait could be considered an Immunity; rather than removing it entirely, a race or character might still have it, but be Resistant to its ill effects – for an example, see *Resistant* (p. 44) for a discussion of being hardened against power surges. In many cases, if being subject to a hazard has a negative point value, it's fair to "flip the sign" and use that as the cost of Immunity to that hazard.

A more specialized trait of the same kind is Protected Sense, which can keep a ranged sense from being overwhelmed by intense stimuli. Versions of this trait can be applied to machines, organisms with exotic senses, and more unusual beings. It's relatively rare in living creatures (though Nictitating Membrane, armoring the eyes, is common enough), but may be found in combat-hardened machines and some supernatural beings.

Both Resistant/Immunity and Protected Sense may occur in races that have to live in harsh, unpredictable environments. Such races may also have Radiation Tolerance (see *Radiation,* p. 17, for more on this).

Another important category of defensive traits is the ability to heal from damage. This applies to living organisms and to most spirits and their material forms; machines must be repaired, and the undead tend to have limited or no healing abilities (any of which is Unhealing). Regrowth – the capacity to grow back lost body parts – is the most biologically realistic healing trait. A race with Rapid Healing or a modest level of Regeneration *might* be justifiable; reserve high levels of Regeneration for supernatural beings and super-races.

Avoiding getting hurt in the first place can be an even better option! This is the main benefit of Combat Reflexes, which suits many wild animals (predators and elusive prey alike) and races of warriors, and of Enhanced Time Sense, available to computer-based races. Enhanced Move is another good option for races with natural enemies.

Oh no! Another Laurie Anderson clone!
– Laurie Anderson,
"Talk Normal"

Outward Form

A race's physical qualities include such things as its appearance and voice, which can give it reaction modifiers. Appearance is a matter of shape and surface texture, and can be perceived by vision, Scanning Sense, or touch; it ranges from Horrific to Transcendent. Voice can be perceived by hearing, and its extremes are Disturbing Voice and Voice; Stuttering is equivalent to Disturbing Voice, but applies only to beings that can use a language. Races that communicate non-acoustically might have analogous advantages and disadvantages, at the same point values, affecting those with the relevant senses (see *Signals,* pp. 44-45). Only a disadvantage, Bad Smell, is available for what a race smells like.

Normally, these traits affect one's own race and closely similar races. Their main effect is to produce more or less favorable reactions. For example, typical humans have Average appearance, and their usual reactions to each other are "Poor" on a 9 or "Neutral" on a 10-12. If elves have Attractive appearance, giving +1 to reactions, their usual reactions to each other will be "Neutral" on a 10-12 or "Good" on a 13, making them naturally more cooperative; if orcs have Unattractive appearance, it will have the reverse effect. Don't include these traits in a racial template unless you *want* such behavioral effects. Even then, be careful about the size of the total modifier – anything beyond ±2 will have extreme effects.

The voice traits and Bad Smell affect other races with the relevant senses; so does appearance with the Universal modifier. Such effects don't matter to social behavior within a race, but may affect a race's reputation within a larger community of many races. An option for appearance is to limit its effects, not to members of the same race, but to members of the most common or most powerful race in the setting; this is particularly suitable for Horrific, Monstrous, or Hideous appearance, for monstrous beings, or for Transcendent appearance, for godlike ones, but can also apply to any appearance level with Impressive. Manufactured beings, such as robots or bioroids, could also have appearance levels aimed at the race of their makers; they might have the Off-the-Shelf Looks limitation, as might a race with little genetic diversity.

Mental Traits

Partial templates for cybershells (see *Robots and Automata,* p. 7) and vessels (see *Embodied Spirits,* p. 8) omit mental traits. Vehicles with IQ 0 (p. 7) usually have Insensate and Nonautonomous; mental traits don't apply to them and aren't specified.

Consciousness

Sleep-related traits are defined as physical, and sleep has a physical effect: restoration of lost FP (pp. B426-427). On the other hand, sleep amounts to loss of consciousness, and consciousness is a prerequisite for the exercise of nearly all mental traits. (A vehicle, without mental traits, doesn't sleep – but its operator probably does, so it doesn't have to pay points for Doesn't Sleep.) Thus, it makes sense to start the discussion of mental traits with sleep and consciousness.

The human baseline is eight hours of sleep per day. This can be increased (Extra Sleep) or decreased (Less Sleep). For human beings, no more than ±4 hours are allowed, but non-human races can have different limits, or be conscious all the time (Doesn't Sleep). A race that never woke up wouldn't be suitable for character design, so a limit of 15 hours of Extra Sleep, or one waking hour per day, seems reasonable. Sleepy (p. B154) is equivalent to Extra Sleep in cost, and its comments on schedule apply here as well.

Some races can enter other altered states of consciousness. The Autotrance perk may be found in biological races that have close relations with spirits. A race that's naturally capable of lucid dreaming could have Dreaming as a racially learned skill (p. 33). Compartmentalized Mind represents a race's ability to carry on distinct mental tracks in parallel; this is most likely to be useful in races with psionic or magical abilities that let a secondary consciousness act independent of the body, or to computers or infomorphs that can be active in cyberspace.

Consciousness is tied up with the perception of time. Most races experience the passage of time approximately as humans do. However, some races have Enhanced Time Sense, letting them effectively step outside the flow of time, think about their actions at leisure, and then step back in; this is common in infomorphs and may also occur in AIs, intangible spirits, or superhumanly gifted biological races. Similar but lesser benefits can be gained from Altered Time Rate.

A more fundamental choice in racial design is whether to have Digital Mind. This is characteristic of infomorphs with Complexity-Limited IQ (p. 12), but can also appear in machines in general, and perhaps even in unusual organisms. It's a net advantage because it makes the race invulnerable to psionic or super powers that affect the mind, to magical powers or spells with similar effects, and to most biologically based mind-affecting abilities. However, it includes susceptibility to Computer Hacking and Computer Programming, to cybernetically based abilities with the Digital modifier, and to cyberpsi abilities, none of which can affect analog minds, whether in organic beings, spirits, or even unusual machines. Digital Mind can also justify such traits as Compartmentalized Mind, Enhanced Time Sense, Lightning Calculator, Modular Abilities, and Photographic Memory – and Reprogrammable.

Cognition

Cognition is awareness of the world, of oneself, and of abstract ideas. It provides the basis for making decisions and taking actions. In ***GURPS,*** cognitive abilities are mainly represented by IQ (*Attributes, Secondary Characteristics, and Talents,* p. 24). Some specialized aspects of cognition are covered by other traits, however.

Improvements in *memory* can take the form of Eidetic or Photographic Memory. Realistically, most living organisms should be limited to Eidetic Memory. Infomorphs and the majority of robots have the AI meta-trait (p. 9), which includes Photographic Memory. Discriminatory Senses (including Sensitive Touch) are equivalent to Eidetic Memory for their sensory modalities; adding the Profiling enhancement makes them equivalent to Photographic Memory in this realm.

Impaired *thinking* can take the form of Dyslexia, Innumerate, or Non-Iconographic, for inability to use written language, arithmetic, or abstract images, respectively; Innumerate in this case isn't simple lack of knowledge, but inability to acquire that knowledge. Quirk-level versions are Mild Dyslexia, Math-Shy, and Symbol-Shy. Represent enhanced abilities with Language Talent for words, or Lightning Calculator or Intuitive Mathematician (included in the AI meta-trait) for numbers. None of these traits apply to races with racial IQ 5 or less.

Remarkable *creativity* takes the form of Versatile – and its lack takes the form of Hidebound. Hidebound is included in the Automaton meta-trait (p. 9), found in some infomorphs, robots, golems, and undead. For more on these traits, see *Motivation and Behavior* (below).

Motivation and Behavior

Different races can have a variety of traits (often disadvantages or quirks) that shape their thinking and behavior. Bear in mind that ***GURPS*** disadvantages, particularly those with self-control numbers, produce exaggerated behavior patterns; players may be reluctant to roleplay beings from such races, especially those with multiple disadvantages, or a self-control number of (9) or (6). More nuanced behavior – only modestly unusual in human terms – can be represented by quirks.

A detailed system for profiling racial "personality" appears on pp. 169-170 of ***GURPS Space.*** It's presented there as the last step in random racial creation, but with the suggestion that GMs can also start with desired personality traits and work backward to find compatible biological traits. The version presented here supports that approach; in particular, it omits ***Space***'s detailed rules for assigning trait values in favor of general guidelines. See *Behavior and Mentality* (pp. 40-41) for suggestions on how racial traits play into social patterns.

A race with the Automaton meta-trait (p. 9) – such as some robots, infomorphs, bioroids, and undead – has Curiosity -3, Empathy -3, Imagination -2, and Playfulness -2. Its other traits will usually be at 0, though it may have enhanced Concentration, especially if it also is Reprogrammable.

Chauvinism

Awareness and protection of the boundaries of social groups, from clans or tribes up to entire races. High in races that depend on geographically localized resources or that form hives, and in spirits of place. Low in races that trade extensively.

Score	***Traits***
+3 or more	Chauvinistic (becomes racial Intolerance if Empathy is less than +1 or Suspicion greater than -1; becomes Xenophobia (12) if Suspicion is greater than +1)
+2	Chauvinistic (becomes racial Intolerance if Empathy is less than +1 or Suspicion greater than -1)
+1	Chauvinistic (becomes racial Intolerance if Empathy is less than 0 or Suspicion greater than 0)
0	Normal
-1	Broad-Minded
-2	Broad-Minded (becomes Xenophilia (15) if Suspicion is less than 0 and Empathy is greater than 0)
-3 or less	Delusion (quirk-level – "All sapient races are alike") (becomes Xenophilia (12) if Suspicion is less than 0 or Empathy is greater than 0; Xenophilia (9) if both are true)

Concentration

Ability and inclination to focus on long-term tasks. High in races that depend on resources that take a long time to find or harvest, and in elemental spirits of solid materials. Low in races that react opportunistically to sporadically available resources, and in elemental spirits of air and fire.

Score	*Traits*
+3 or more	Single-Minded, and *either* High Pain Threshold *or* one 5-point Talent
+2	Single-Minded
+1	Attentive or Patience of Job
0	Normal
-1	Distractible
-2	Short Attention Span (12)
-3 or less	Short Attention Span (9)

Curiosity

Level of attention paid to new things, and interest in finding them. High in omnivorous biological species, and in infomorphs. Low in herbivorous biological species; in spirits and the undead; and in races with no primary sense.

Score	*Traits*
+3 or more	Curious (9) (becomes Curious (6) if Concentration or Suspicion is 0 or less)
+2	Curious (12) (becomes Curious (9) if Concentration is 0 or less)
+1	Nosy (becomes Curious (12) if Concentration is 0 or less)
0	Normal
-1	Staid
-2	Incurious (12) (becomes Incurious (9) if Suspicion is less than 0)
-3 or less	Incurious (9)

Egoism

Focus on personal gain or honor, and resistance to subordination. High in biological races that rarely form groups, in males in harem species, and in free-willed undead; low in races that form hives, and in free-willed robots and bioroids.

Score	*Traits*
+3 or more	Selfish (9)
+2	Selfish (12) (becomes Selfish (9) if Empathy is less than 0 or Suspicion is greater than 0)
+1	Proud (becomes Selfish (12) if Suspicion is greater than 0; becomes Selfish (9) if Empathy is -2 or less or if Suspicion is +2 or greater)
0	Normal
-1	Humble
-2	Selfless (12) (becomes Selfless (9) if Chauvinism is +2 or greater)
-3 or less	Selfless (6)

The fox runs for his dinner; the rabbit runs for his life.

– Traditional proverb

Empathy

Awareness of the feelings of others; avoidance of giving offense. High in races that form small groups, and in carnivores that pursue intelligent prey; low in races that rarely form groups, and in free-willed robots and infomorphs.

Score	*Traits*
+3 or more	Empathy (add Charitable (12) if Gregariousness is greater than 0)
+2	Sensitive
+1	Responsive (becomes Sensitive if Gregariousness is greater than 0 and Suspicion is less than 0)
0	Normal
-1	Oblivious
-2	Callous
-3 or less	Low Empathy (add Bloodlust (12) for carnivores)

Gregariousness

Sociability, need for the company of others. High in biological races that form herds or (especially) have hive societies; low in races that rarely form groups, particularly solitary hunters, and in the undead.

Score	*Traits*	*Score*	*Traits*
+3 or more	Gregarious	-1	Uncongenial
+2	Chummy	-2	Loner (12)
+1	Congenial	-3 or less	Loner (9)
0	Normal		

Imagination

Ability to see patterns, invent new behavior, and come up with new ideas. High in biological races with flexible feeding strategies, and in infomorphs; low in races with stereotyped feeding strategies.

Score	*Traits*
+3 or more	Imaginative (becomes Versatile if Concentration is 0 or greater and Egoism is less than +2; if Empathy is less than +1, add Odious Racial Habit (Nonstop idea factory) [-5])
+2	Imaginative (becomes Versatile if Concentration is 0 or greater and Egoism is less than +2; if Concentration is less than +1 or if Egoism is greater than 0, add Dreamer)
+1	Imaginative (becomes Versatile if Concentration is 0 or greater and Egoism is less than +2)
0	Normal
-1	Dull
-2	Hidebound
-3 or less	Hidebound and reduce racial IQ by 1

Playfulness

Willingness to engage in non-utilitarian behavior; playful animals are easier to train, and playful sapients have a sense of humor. High in biological races with long maturation (such as human beings) and in animals with species IQ 5; low in animals with species IQ 1 or 2 and in races that rarely form groups; very low if race has Cannot Learn.

Score	*Trait*
+3 or more	Compulsive Playfulness (12) [-5*] (becomes Trickster (15) if race has Overconfidence)
+2	Playful
+1	Normal†
0	Serious
-1	Odious Racial Habit (Wet blanket) [-5]
-2	No Sense of Humor
-3 or less	Intolerance (Any form of jokes or play)

† Humans are *not* the norm for this trait!

Suspicion

Distrust and fearfulness toward new things or surprises. High in herbivores, in small races, and in races with no primary sense or a handicapped primary sense; low in carnivores, and in large races.

Score	*Traits*
+3 or more	Fearfulness 2 (add Cowardice for herbivorous races, or Paranoia for carnivorous races)
+2	Fearfulness 1 (becomes Careful if Curiosity is -3 or less)
+1	Careful (ignore if Curiosity is -2 or less)
0	Normal
-1	Fearlessness 1
-2	Fearlessness 2 (add Overconfidence (12) if Egoism is +2 or greater)
-3 or less	Fearlessness 3 (becomes Unfazeable if Chauvinism is -3 or less; add Overconfidence (12) if Egoism is +1 or greater)

Skills

Skills must ordinarily be learned, and thus differ from one member of a race to another. This makes them suitable to include in character templates but not in racial templates. Yet there are exceptions to this rule.

Racial Skills

In some cases, every member of a race learns a skill, in the way that every human being learns to speak a language. "Every" can't be taken literally – some members may develop a different skill, as deaf humans often learn to *sign* a language, and some may not have it at all. See *Modification* (p. 37) for more about such cases. A skill may also be part of a race's self-image, or other races' image of it (see *Archetypal Skills,* p. 35).

In other cases, a race might not *need* to learn a skill – it could be inherent in their nature. Biological races may have instincts; artificial intelligences may have programs; spirits may be spirits *of* something that implies a particular skill.

The price of a racial skill is the same as if an individual character were learning it (*Skill Cost Table,* p. B170). For example, a tiger with DX+3 and racial-average DX 13 has Stealth-13. This would be written under Racially Learned Skills (*Presentation,* p. 42) as Stealth (A) DX [2]-13.

Instincts, hardwired programs, and other inherent skills often cannot be modified by learning. This is Taboo Trait (Fixed Skill) (p. 12). With the GM's permission, a racial template can be modified (p. 37) by removing an inherent skill; with *further* permission, a member of the race might also lack the taboo trait and be able to learn the skill. If so, the skill has no default and must be learned initially from a teacher or trainer.

A computer-based race is likely to have Modular Abilities (Computer Brain) – or in classic cyberpunk settings, Modular Abilities (Chip Slots). Treat skills gained in this way as inherent skills with Taboo Trait (Fixed Skill). The same applies to other types of races with other forms of Modular Abilities.

Skill Bonuses and Penalties

A race may be exceptionally good or bad at a particular skill. If it's exceptionally good, it gets a skill bonus that costs 2 points/level, to a maximum of three levels (+3); this is allowed only in a racial template. If it's exceptionally bad, give it an Incompetence quirk as a racial trait.

A racial knack for a group of related skills is a Talent (*Attributes, Secondary Characteristics, and Talents,* p. 24). A race can also be incompetent at a group of related skills; treat this as a *negative* level of a Talent, with a negative point cost. No race can have more than one "group incompetence." Talents can have up to four levels, positive or negative.

In creating a character of a race with skill bonuses or penalties, start out from the relevant attribute; determine the level of the skill relative to that attribute, based on the points spent on the skill; and *then* apply any racial bonus or penalty.

Magic

In a fantasy campaign, a race can have the ability to work magic, often defined as Magery 0, or a talent for using magic, as levels of Magery. Taking levels of Magery with limitations can help give a race a distinctive "feel." Magic is usually available only to living organisms or spirits, but machines or infomorphs might be capable of it with a magical coprocessor or magical symbols, perhaps requiring an Unusual Background. Or a standard computer might be possessed by a spirit with magical abilities.

In settings where standard spell-based magic (pp. B234-253) is available, a spell may be *racially learned* or *inherent,* just like a racial skill. Racially learned spells are treated like any other skill; in particular, they can be studied or trained to a higher level. Inherent racial magic can't be; it takes the form of fixed spells. Determine the cost of a fixed spell as follows:

- Take Magery 0 for 5 points.
- Take the highest level of Magery required for the spell or any of its prerequisites, with the modifier One Spell Only (-80%), for 2 points/level.
- Take the spell at a level relative to IQ + Magery, at the usual point cost.
- Add 1 point for each prerequisite spell.

For fixed spells, the maximum level of Magery can be as high as the GM wants. A nonsapient animal – or even a plant with IQ 0 – could have enough Magery to cast one innate spell at a reasonable level!

In other settings, magic is better treated as a set of abilities built from advantages. This approach lends itself well to inherent racial magic. Take whatever advantage is appropriate to represent a racial ability, and give it the power modifier Magical (-10%), along with any other modifiers that fit. The result is an ability that's affected by the local mana level and can be countered or dispelled by magic. A race may have an inherent Talent for such an ability; characters of some sapient races can buy levels of Talent as a learned trait – sometimes even if they have the inherent Talent.

GURPS Thaumatology provides many other options for magic. Some forms of magic can be turned into racial traits along the same lines as spell-based magic.

Social Traits

Social traits emerge from a being's interaction with others, and depend on how those interactions go. Different members of a race can have different experiences that give them different identities. Because of this, most social traits are traits of individuals, not of races. This is especially true when members of a race interact mainly with each other – they won't see a trait as distinctive if they all have it! Some races and some traits are exceptions, however.

> *My mother was a test tube; my father was a knife.*
>
> *– Robert Heinlein,* ***Friday***

The Reference Culture

Some character traits reflect, not a person's inherent qualities, but how they stand in a particular society. For example, an American in 1900 with technological skills at TL6 has neither High TL nor Low TL. But in the TL1 world of Greek legend, a character with exactly the same skills would possess High TL 5. Traits such as High TL and Low TL define how an adventurer's access to skills and equipment compares to what's normal in the scene of their adventures.

It would be awkward if a Maori warrior had Low TL 5 relative to the English colonists while his friend the Scots explorer had High TL 5 relative to the local Maori village! And it would be inconvenient if they both had to change traits when they traveled from New Zealand to the British Isles. Rather, the GM of a ***GURPS*** campaign needs to define a "reference society." This is usually the society where most of the action is expected to take place. If a racial template includes social traits, these should be defined in relation to the reference society.

Cultures, Languages, and Skills

Social traits include things learned as a result of being created or educated in a particular culture. In some cases, a racial template can include these.

Cultural Lenses

Races are often divided into multiple cultures. It's possible to represent a culture as a character template, as discussed in ***GURPS Template Toolkit 1: Characters.*** When used together with racial templates, these function as *lenses:* additional packages of traits that make a racial template more specific. If a culture's traits are *distinctive* and *uniform,* it can make sense to treat them as rules rather than guidelines or suggestions – to treat the culture as a sub-race.

Several types of traits can be used to define a cultural lens:

- *Assets.* A race may have access to unusual material assets, such as High TL or above-average Wealth – or suffer from Low TL or below-average Wealth.
- *Beliefs and prejudices.* These are usually self-imposed mental disadvantages or Odious Personal Habits, but other mental traits are possible; e.g., a culture might share a Delusion or a Phobia.

• *Genetic traits* of a bloodline or closed breeding group such as a caste. These are typically attribute modifiers or physical advantages and disadvantages, but there are more exotic options, such as – in a fantasy setting – Charisma (in a royal lineage) or Magery 0 (in a sorcerer caste).

• *Physical modifications* to a race's body type, such as minor surgery or body art to create distinctive features, or refitting a machine for a new function.

• *Teachings* that define a culture. Cultural Familiarities and Languages are basic (and one of each is free!), but all members of a culture may have learnable advantage such as Eidetic Memory, or skills such as Spacer, Survival, or a weapon skill.

Archetypal Skills

In some settings, races may be identified with *archetypes,* as discussed in *Sets of Races* (pp. 22-23). Such an archetype can include particular skills: Perhaps all dwarves are skilled with axes, or all Belters know how to navigate in space. Such archetypal skills often build on racial advantages, such as Arm ST or 3D Spatial Sense. In an epic or cinematic campaign, a race may have esoteric skills – for example, all elves might have Light Walk. All of these can be defined as racially learned skills (p. 33). The *ability* to learn a skill that's normally off limits, such as Light Walk, can be treated as a racial feature.

Archetypal skills aren't distinctive to a particular cultural group. Rather, every member of a race has them. Where including cultural lenses provides a way to distinguish members of a race from each other, archetypal skills provide a way to make each race's members play one main role in their world. To identify such skills for a race, look for things its members are always shown as doing in stories, or – for a newly created race – things it *will* be depicted as doing.

Reaction Modifiers

The most truly *social* aspect of a race is the way members of other races regard it. Ideally, each individual would be judged for their own unique qualities, but it saves time and mental effort to form expectations about a race's typical behavior, and to react to its members accordingly. In relatively benign cases, these expectations and reactions will reflect the race's actual traits; often, they'll exaggerate those traits (e.g., Distractible may be thought of as Short Attention Span); and some societies will attribute entirely imaginary qualities to the race. Unusually objective (Broad-Minded) people, or those who know an individual well, can compensate for such perceptions, and an individual's Reputation can work against and even overcome the preconceptions; racially Intolerant individuals will cling to their prejudices despite all evidence to the contrary.

If the reference society in general views a race in a particular way, its template can include Social Regard (if it invites favorable reactions) or Social Stigma (if it invites unfavorable ones). The difference is sometimes subtle! For example, Social Regard (Feared) produces favorable reactions similar to those from Intimidation; Social Stigma (Monster) also can involve being feared, and while it usually produces unfavorable reactions (up to being hunted on sight), it gives a large Intimidation bonus. Use the first for races that are still seen as people with some legal rights, and the second for races that aren't seen as people at all. Only traits that don't depend on individual acts or stages in the life cycle are suitable; among Social Stigmas, this can be Dead (p. 46), Minority Group, Monster, Second-Class Citizen, Subjugated, and Valuable Property; *possibly* Uneducated; and the *supernatural* form of Excommunicated for entities such as demons.

If only some people view a race in a certain way, give it a racial Reputation, or different racial Reputations with different groups. Do the same if reactions to a race take a specialized form, or are based on specialized traits, that don't easily fit any standard type of Social Regard or Social Stigma.

Culturally Defined Traits

Some traits are not necessarily specific to any one culture, but take on distinctive forms in particular cultures. These may be culturally flavored versions of standard variants of those traits, or newly defined variants for particular cultures. The obvious examples are self-imposed mental disadvantages – notably Code of Honor or Disciplines of Faith (but not Trademark or Vow, which are inherently individualized and don't have standard variants) – but other possibilities are Compulsive Behavior, Delusions, Phobias, or even a particular Addiction. Some of these may be suitable as elements in cultural lenses or even as archetypal traits.

Races and Powers

Belonging to a race, as such, can't be defined as a power. Powers of many types can be shut off – by mundane or technological countermeasures, anti-powers, or the disapproval of the being that grants them. What would it mean to "shut off" being a demon or a robot – or, for that matter, a human being? Your template is what you *are;* if you stop being that, *you stop being,* vanishing from the world. A high-end cosmic ability might conceivably be able to negate someone's very existence, but no ordinary force should be capable of that.

On the other hand, *becoming* a member of a race – through Shapeshifting, for instance – can be treated as the ability of a power. Ordinarily this means that having the power shut down restores your original form. If Shapeshifting has Once On, Stays On (***GURPS Powers,*** pp. 75, 109), however, shutting it down *takes away* the ability to resume your original form, leaving you stuck in the assumed form.

It's also perfectly possible for races to *have* powers; magical powers are common in fantasy, and psionic powers in science fiction. Countermeasures against the power source can shut down specific racial abilities, but won't usually make the race unable to exist or function – a dragon in a no-mana zone might lose its fiery breath or be unable to fly, but would still be a huge creature with sharp teeth and an armored hide. Of course, if it lost the ability to fly at an altitude of 1,000 feet, the fall might easily kill it!

Chapter Four
Races in Play

Once a race has a template, characters who belong to it can be brought into play, by the GM and often by players. This raises the issue of how to use a template effectively in a campaign – and knowing how a race will be used can also help in designing its template in the first place.

Let us therefore defeat the humans in one fell swoop, and create our own perfect AI world!!
– Fuchikoma, in ***Ghost in the Shell***

How Much Do They Cost?

Different races aren't all equal, and their point costs don't have to be the same.

The standard way to deal with this in ***GURPS*** is to give every character the same number of character points. Templates with positive point values are bought as advantages; templates with negative point values are taken as disadvantages.

Suppose a campaign allows 100 points for character design, and up to -50 points in disadvantages and quirks. A normal human can spend up to 150 points on desirable traits and take up to -50 points in undesirable ones. A member of a -25-point race can spend up to 150 points, but has free choice of only -25 points of undesirable traits; a member of a 75-point race can take the full -50 points in undesirable traits, but can't have more than 75 points of desirable ones; a member of a 375-point race can't be played at all! Player-character races have a limited range of point values, and extreme values allow fewer choices for character design.

A way around this is to separate the choice of race from spending points. Players get some number of base points, and some maximum number of points from disadvantages. But they also get to choose a character's race, and that doesn't count toward these limits. This takes care in planning the campaign; races with positive costs have to be specialized enough that they don't overwhelm other races, while races with negative costs have to have merits that make playing them worthwhile. Maybe, for example, the -25-point race is small and good at hiding, making suitable thieves or scouts; maybe the 375-point race is highly intelligent, but has little understanding of emotions and social interaction. It's also possible to allow free choice of racial template, but within limits; e.g., "any race worth no less than -50 points and no more than 50."

A further step is to do away with point budgets. In the "build to concept" approach, players choose a race and a few other broad descriptions, such as "cultural background" and "profession," and choose traits to fit each of these. If the campaign uses character templates (see ***GURPS Template Toolkit 1: Characters***), character design might involve choosing racial and character templates – though it's a good idea to allow a few points for skills, perks, and quirks outside of these, to make characters more interesting. The point cost of each character is whatever its traits add up to. The primary "balancing" mechanism is the requirement for each character to embody a coherent and limited concept. However, it's also vital that the GM design a suite of races (see *Sets of Races,* pp. 22-23) that can all play useful roles in a campaign, no matter how different their point values (disregarding the restrictions under *Races and Powers*, p. 35).

Super-Races

In most campaigns, racial cost is limited to a modest range of point values, whether positive or negative. But it's possible to create extremely powerful races. Angelic or demonic beings, natural or elemental spirits, fantasy races such as dragons, advanced aliens, or combat robots could be built on hundreds of points. These usually appear as NPCs – possibly Patrons or Enemies. But in a high-end campaign, such as epic fantasy or supers, PCs may have enough character points to belong to such races.

In the supers genre, a common character origin is as members of alien races, such as DC's Kryptonians and Martians and most of the Legion of Super-Heroes, or Marvel's Kree and Skrulls. Often, abilities of such races – like other "superpowers" – can be negated or stolen by advanced technology or special abilities based on Neutralize or Static. In this case, it makes sense *as a genre assumption* to apply the Super power modifier to any racial traits that are affected this way.

Such a campaign may also be a case for *Player-Designed Races* (p. 37).

Modification

Not all humans are *typical.* A long list of ***GURPS*** traits are ways in which a human character can differ from the average human, and choosing among these is an important part of character creation. It's just as legitimate to create an atypical nonhuman character.

A character can have attributes or secondary characteristics different from the racial average, unless their race has a taboo trait fixing an attribute or secondary characteristic's level. Buy attributes up or down from 10, at the usual cost, and then add or subtract any racial bonus or penalty. Use the resulting values to figure secondary characteristics; buy these up or down from the figured values, at the usual cost and with the standard restrictions on how big a change is possible; and again add or subtract any racial bonus or penalty.

A character can lack capabilities that appear as advantages on its racial template. For example, just as a human can have Blindness or One Arm, a member of another race could have No Sonar or Missing Extra Arm as an individual trait. The negative point value of the lack should exactly cancel out the positive point value included in the template.

Approach *adding* capabilities with caution. For example, average mammalian vision compares to human vision as human smell compares to a dog's Discriminatory Smell; buying off Bad Sight (Low Resolution) should be treated as acquiring an exotic trait. However, some enhanced capabilities may be within a race's normal range of variation. Ask the GM before adding such a trait.

If a race has a Talent, individual members of the race can *also* have levels of that Talent as an individual trait, up to the usual maximum – that is, if a race is naturally good at, say, mathematics or social interaction, some of its members may be gifted beyond human limits. It should also be possible, with most Talents, for an individual member of the race to buy down the Talent; the negative point value for the resulting "Anti-Talent" should exactly cancel the positive point value included in the template.

For behavioral traits, humans can vary in either direction from the (usually neutral) human average. A similar adjustment can be made around any racial norm; see *Behavior and Mentality* (pp. 40-41). Such reasoning can apply to other traits that can shift in two different directions. For example, an unusually homely elf might have Not Attractive to represent being no better looking than a human. In some cases, the description may take a different form: a playful member of a race with No Sense of Humor might have Sense of Humor [10], or a very timid member of a race with Fearlessness 1 might have Fearfulness 1 [-4] with a footnote: "Bought down from racial Fearlessness 1."

Standard racial traits should be subsumed by the racial template. Differences should be listed as individual traits.

The only noticeable effect garlic had on me was bad breath.
– Nancy Collins, ***Sunglasses after Dark***

Player-Designed Races

Some players may want to do more than modify a racial template – they might want to create a template for a race of their own creation, or have the GM do so.

Letting players do this can generate problems for a campaign. There's a chance of its leading them into temptation, inviting the creation of races as a form of wish fulfillment, or of excessively powerful races that make characters of other races irrelevant; or if several players take the opportunity, of turning the campaign into an arms race. Even players who don't feel such urges won't have as good a sense as the GM of what the game world is like, or how different races fit into it – especially if the campaign is intended to have a suite of races that fit together coherently (see *Sets of Races,* pp. 22-23). The fewer races a game world has, the more adding a new race will change it, and the more the campaign will revolve around that race; in the limit, if there's only one nonhuman race, as in an alien "first contact" situation, dealing with that race is likely to be the campaign's entire focus.

On the other hand, a campaign might allow the creation of individual characters with exotic or supernatural traits – as supers, for example. If a character template can have such traits, a similar racial template would usually have no greater disruptive effect. And while a single new race is likely to be the main focus of a campaign, one new race among many, as in some outer space or "invented world" fantasy settings, may have little impact on a game world. So some GMs may choose to explore this option.

This *is* something the GM has to decide. A campaign's theme or setting may not admit nonhuman races. If it does, players' ideas for races still require GM approval as playable. It's generally a good idea to set limits on racial design, both prohibiting unsuitable traits (e.g., a hard science fiction campaign probably won't allow Magery) and setting limits on racial point cost (which should fit within the point totals allowed for PCs). Hugely powerful races might be a source of Patrons or Enemies, but players don't get to design these NPCs! It's often helpful to have players discuss ideas for races among themselves, to make sure whatever they come up with is enjoyable for everyone. Following on from this, if player-created races are allowed, they should all be created *before* anyone builds an individual character, and any player should have the right to play a member of any other player's invented race.

Inventing Races

In some settings, new races can be created during the campaign. Existing races may be modified into new forms, such as parahumans or uplifted animals. Entirely new races may be invented, such as robots, infomorphs, golems, or tulpas.

In some campaigns, this is a long-term project for a large organization. Working on it is likely a job, calling for monthly job rolls against skills such as Alchemy (for homunculi), Bioengineering (for life forms), Computer Programming (for infomorphs), Engineer (for computers, robots, or vehicles), or Ritual Magic or Thaumatology (for magical entities). Most of the actual work will take place offstage, but an occasional game session might be devoted to testing a prototype, fixing a bug, or containing catastrophic effects; the *New Inventions* rules (pp. B473-474) can provide inspiration.

The same skills can apply to actually creating a new race, if this is possible for PCs. This is an exception to the recommendation against player-designed races, as the PCs won't normally belong to the newly created race. Use *New Inventions* for realistic attempts, or *Gadgeteering* (pp. B475-477) for cinematic ones. As with any invention, the GM assigns the difficulty. Guidelines for some types of races appear in ***GURPS Powers: The Weird.***

For this type of project, coming up with a racial template can represent the "Concept roll" step in design. If the players submit a racial template that's internally consistent and compatible with the setting's TL, treat this as a valid Concept roll. If there are questionable points, a roll against the invention skill can identify them; on a failure, the inventor needs to make another try. On a *critical* failure, the project moves forward – but at best the prototype will use up resources with no result, while at worst it will have a major physical or mental defect, which the GM should secretly add to the racial template. A Prototype roll will often also add minor or major defects. Testing a prototype may take a long time; for new biological species, for example, one testing roll a year is plausible! Testing a sapient race typically calls for Teaching rolls; for nonsapient life forms, use Animal Handling (or possibly Gardening!); for vehicles, use the relevant vehicle operation skill.

Shapeshifting

A common idea in fantastic genres, from mythology to science fiction, has been taking on a different form. In ***GURPS*** this is usually represented as Shapeshifting. By definition, Shapeshifting is reversible; shapeshifters can be regarded as having a new feature, Original Form, which represents their original racial template when they're shifted, as a latent trait.

Not all different shapes are represented as racial templates. With the Cosmetic limitation, Shapeshifting grants the ability to turn into one or more *different* members of one's own race, or beings with the same abilities. This is still an advantage, because the ability to disguise oneself as an entirely different person is useful in its own right!

Cosmetic changes of form mostly don't affect a character's point value. However, the Cosmetic limitation doesn't include Retains Shape, so it's possible to assume a different morphology meta-trait (pp. 9-11) with a different point value: a humanoid could look like an octopod, or a ground vehicle like a boat. A character can also temporarily lose a body part, acquiring Blindness, Lame, One Arm, or One Eye, for example. Appearance level (p. B21) can be *lowered,* but Horrific or Monstrous appearance requires GM approval, unless the character's usual appearance is Horrific or Monstrous. To raise appearance level, for either the primary form or a different form, pay the full point cost of the *highest* level available to any form.

Gone! Gone! O form of man
And rise the demon – Etrigan.

– Jack Kirby, ***The Demon***

Taking on a single different racial template is Alternate Form *without* the Cosmetic modifier. As a general rule, the choice of the other template is not unlimited: a living organism can't become a machine, an infomorph, or a spirit. However, it can have a different mass or morphology. Any of these rules can be changed as an assumption of a specific campaign, with no effect on point cost. For example, a comic-book super may assume an Alternate Form that includes Body of Fire or Body of Metal; or in a hard science-based campaign, all Alternate Forms may be required to have unchanged mass.

Creating a character with Alternate Form *includes* defining the racial template for that form. If a character has several Alternate Forms, each requires its own racial template. In contrast, a character with Morph has a wide range of possible forms; it isn't feasible to write up a template for every animal, or machine, or embodied spirit that a morphing character might become, or fair to limit such a character to forms that already have templates available. Instead, assume that most human-sized or smaller animals (or machines) cost 0 points or less and are freely available even if detailed templates haven't been written up.

Large or dangerous races may have a higher cost, and it's a good idea to have templates for races that morphing adventurers are likely to encounter.

Morph allows taking on a potentially unlimited *number* of forms, but the *range* of forms is usually restricted. Every form must be copied from an existing race, though a race's mental disadvantages and its modifiers to IQ, Will, and Per can be omitted. A shapeshifter with Morph (Improvised Forms, +100%) is free of this restriction, and can combine traits from different forms, *if* those traits exist in the campaign world.

Embodied beings can change *form* but not *substance;* for example, a water-based life form can't turn into an ammonia-based one, or an elemental with Body of Earth into one with Body of Metal. The Unlimited enhancement allows a change of substance, or a change from a substantial being to an insubstantial one such as a spirit. Races are divided into broad groups (as discussed in *What Are Races?* pp. 5-8), and taking on a form that belongs to a different group requires Unlimited whether or not there are differences of composition; e.g., a living human can't turn into a walking corpse without Unlimited. In effect, Unlimited is a form of Cosmic; it allows disregarding the normal rules for Morph. The broad groups are as follows:

Organic: Any naturally living being, artificially constructed living being, or spirit materialized in a biologically functioning body, such as a djinn in human form or an incubus.

Mechanical: Any unliving being whose functions depend on a technologically based structure, such as a computer, robot, or vehicle.

Mass: A material being without structural complexity, typically Homogenous, often controlled by the will of an embodied spirit, such as an elemental, golem, or skeleton.

Insubstantial: A spirit without a tangible body, but with a physical location and the ability to perceive the material world.

Various limitations can narrow the range of templates available through Morph. Mass Conservation prevents taking a form with a different weight; this should be required in a hard-science campaign. Retains Shape prevents taking a form with a different morphology meta-trait. Flawed prevents taking a form that exactly copies an individual member of one's own or another race; rather, you look like yourself as a tiger, yourself as a robot, or yourself as a demon. Cosmetic is the opposite of Flawed, and is as discussed for Alternate Form.

Either Alternate Form or Morph may be a trait of an entire race, rather than a special ability of an individual. This requires two layers of racial templates: Templates for the forms that members of the race can assume by changing shape, and a further racial template that includes at least the Shapeshifting ability. The latter may be otherwise identical to the template of a non-shapeshifting race (for example, a human-based race might have a template consisting only of a single Alternate Form); it may include minor visible marks or behavioral traits related to shapeshifting; or shapeshifters may be an entirely distinct race whose primary form is different from that of any non-shapeshifting race.

Shapeshifting can be a disadvantage if the other shape is actively destructive or hostile; see *Disadvantageous Alternate Form* (p. 46). The assumed form is not under the control of the character *or* the player, so that trait doesn't include the ability to choose a shape that goes with Morph; it's a variant on Alternate Form.

A different form can also be inflicted on someone by an enemy. If this is treated as an ability of the foe, build it as Affliction with Advantage; if the target fails a HT roll, their form changes (over 10 seconds, unless the advantage is enhanced to work faster), and they stay in the changed form for one minute per point of failure (unless the Affliction has Extended Duration). The template for the Alternate Form replaces the character's usual racial template. The same replacement may be achievable by casting a spell in a campaign where magic works.

Transformational Abilities

Not all shapeshifting involves the eponymous advantage. Being able to alter SM is Growth or Shrinking – or Stretching, if only *part* of the body changes. For minor cosmetic alterations, Elastic Skin (below) suffices. Such abilities suit racial templates for toons (p. 6), fantasy and sci-fi "metamorphs," and superscience nanotech beings of "living" plastic or metal. *Realistic* invertebrates and adaptable machines can't change mass or overall size, but may have a level or two of Stretching, sometimes limited to specific limbs or other body parts.

Under the Hood: Materialization

Insubstantiality normally grants the ability to change freely between material and immaterial forms. However, with Always On (-50%), it doesn't; a race that has this is always immaterial. Gaining the ability to materialize raises the cost of Insubstantiality by 40 points. In comparison, adding Unlimited (+50%) to Morph increases its cost by 50 points. But the extra 10 points buy the ability to materialize in widely varied forms, human, mechanical, or vessel – so for a powerful spirit capable of shapeshifting, it can be a great bargain!

Under the Hood: Elastic Skin

Elastic Skin allows changing one's skin and features to look like a different member of the same or a similar race. It doesn't actually grant a new racial template, and thus is similar to Morph with Cosmetic (-50%). There are two important differences. First, Elastic Skin is purely superficial, whereas Morph usually affects the entire body; this can be accounted for partly by Morph being Cosmetic, and partly by adding Retains Shape (-20%), which prevents changing the shapeshifter's morphology. Second, Elastic Skin requires a Disguise roll for impersonation; Flawed (-10%) can't be combined with Cosmetic, but if it could, the flaws might be concealable with a Disguise roll. Applying all these limitations gives a cost of 20 points, the same as that of Elastic Skin.

Permanent Transformation

Not all changes of shape are reversible. Sometimes it's impossible to change back; the original form is lost when a new racial template is acquired.

Permanent transformation can be natural to a race. Living organisms may have a life cycle that includes changes of form, like a caterpillar's metamorphosis into a butterfly; some corporeal undead are destined to take on new forms as their tissues decay, going from intact to rotting to skeletal (p. 21). Any such tendency is represented by the feature Potential Form (p. 12). Each form has its own template; if the template for the later form has a higher point value, the cost of Potential Form is half the difference, rounded up. The other half must be paid when the change occurs. (Potential Form is not required for a race such as humans that grows and learns, but only for one that undergoes a significant change in form, such as caterpillar to butterfly or tadpole to frog.)

Such changes are often a matter of time. But they may be triggered by specific events: the occurrence of environmental conditions favorable to the new form; general stress (e.g., injury that requires a HT roll to avoid death); or injury that makes the old form nonfunctional (treat as Extra Life 1 together with Potential Form).

Permanent transformation can also be imposed from outside. This may involve any of the processes discussed under *Shapeshifting* (pp. 38-39), but with Extended Duration, Permanent (the +300% version that can't be undone). It can also be brought about by surgery or genetic engineering on living beings, or by engineering or computer programming on technological beings; turning a biological sapient into a cyborg would require skills from *both* groups. Such changes are often Gadgeteering (***GURPS Powers: The Weird*** discusses this process for living beings), usually as modification of an existing invention (p. B477).

Another way to do this is by imposing *one's own* racial template on a member of another race (normally a very similar one), an ability found in some lycanthropes and undead, for example. If the newly created being becomes a loyal servant of the original, this is Dominance; in addition to the racial template, the servitor acquires Slave Mentality. If it doesn't restrict the behavior of the recipient, leaving them free to attack their creator, it's Infectious Attack – and for reasons of game balance, it's a good idea to have the recipient pay the point cost of a more powerful template. It's also possible to have this capability as a feature, Carrier (p. 12), if the change erases the recipient's memory (treat as total Amnesia), or if they become your Dependent (and have an appropriate point value after the change), or if your race is nonsapient; in this case, you simply have an unusual form of reproduction. The standard definition of these traits assumes a supernatural condition, but they can also be used to represent natural agents such as a virus, a computer program, or a runaway meme.

If you strike me down,
I shall become more powerful
than you can possibly imagine.
– Obi-Wan Kenobi,
in ***Star Wars: A New Hope***

Behavior and Mentality

Most races think and behave in characteristic ways. Differences in racial mentality will affect both the characters and the setting.

Roleplaying

Racial behavior is largely shaped by the traits discussed in *Motivation and Behavior* (pp. 31-33). Mental disadvantages or quirks from racial templates should be roleplayed exactly like any other mental disadvantages or quirks. Obviously, this is something to take into account before deciding to play a character of a particular race! Conversely, in designing a racial template, it's useful to have a particular sort of personality in mind, and to choose traits that fit and support that personality.

Individual members of a race need not all be the same, though (as discussed in *Modification,* p. 37). For instance, humans as a race fall in between Attentive (sticking to long tasks until done) and Distractible (having difficulty staying focused), but some people fall to either side. In exactly the same way, some members of a naturally Distractible race (such as ravens, p. 49) may be no more distractible than the average human; others may have full-scale Short Attention Span, constantly losing track of tasks that take more than a few minutes.

Behavior can also be shaped by capabilities. Members of a race with the Artificer Talent, for example, will tend to solve problems by devising clever gadgets or tools; if they're inclined to playfulness, their hobbies, games, and sports may involve making and modifying things. A member of the race who's exceptionally capable will be admired; one who's bad at one of its main activities may lack self-confidence (even if they're better than the average human!); and one whose gifts lie elsewhere might be a bit of a loner, or be thought of as eccentric.

Worldbuilding

Racial behavior also shapes a game world's societies and cultures. Each of the traits that make up a racial personality profile (*Motivation and Behavior,* pp. 31-33) can influence the race's social patterns:

Chauvinism: High Chauvinism reflects strong awareness of differences between groups – from families to species – and a tendency to value loyalty. Low Chauvinism shows ease in dealing with strangers, or even assimilation to their customs. A high-Chauvinism community acts like a city under siege; a low-Chauvinism one, like a mercantile fair eager for customers.

Concentration: A measure of a race's ability to work and save for long-range goals and a big influence on economic style. Races with high Concentration work steadily, save for the future, and take care of their assets; races with low Concentration tend to be burst workers, entrepreneurs, and speculators, quick to respond to opportunities.

Curiosity: High Curiosity is a desire to discover and learn about new things. Races with low Curiosity may dismiss novelties as uninteresting, or avoid them as potentially dangerous. Accumulation of new knowledge for its own sake is an expression of Curiosity; if a race also has normal or better Concentration, this can give rise to scientific research.

Egoism: High Egoism is a tendency to ask, "What's in it for me?" – and resistance to subordinating one's own concerns to shared goals. Lower Egoism favors acceptance of group enterprises; very low Egoism may lead to self-neglect. Control Ratings in societies of high-Egoism races tend to be notably low (reflecting individual recalcitrance) or high (reflecting the harsh measures needed to overcome it); low-Egoism races readily accept intermediate levels of control and tolerate very high levels.

Empathy: A measure of awareness of others' feelings, and often of concern for them. Races with high Empathy strive to be agreeable and care a lot about good manners – but can be intolerant of anyone who isn't equally caring. Races with low Empathy run to brutal honesty. If they have high Egoism, they come across as rugged individualists; if they have low Egoism, as harsh moralists.

Gregariousness: This rates affinity for social groups and tolerance of regular social interaction. Gregarious races are extroverts who need frequent social stimulation and tolerate crowding well; they tend to form large, dense settlements – and as a result, to have lots of economic opportunities. Non-Gregarious races are introverts, needing time alone and liking smaller groups or communities; their populations are likely to disperse as much as space allows.

Imagination: Often closely related to Curiosity, Imagination is a drive not to *find* new things in the external world, but to *make* or *think of* them. Races with little Imagination tend to stick with what works, seldom taking chances on new ideas; races with more Imagination come up with new ideas all the time, and their cultures may be highly diverse. High Imagination is a driver of applied science (technology), as high Curiosity is of theoretical science.

Playfulness: A high-Playfulness race spends energy on nonutilitarian activities and concerns, such as art and sports (and roleplaying games!). A low-Playfulness race seeks a practical payoff for its activities. Playfulness is a trait on which humans are *not* at the midpoint: A score of +1 represents typical human Playfulness, sustained through a prolonged childhood and often partly persisting into adulthood.

Suspicion: High Suspicion is a tendency to see threats everywhere. Races with this trait spend a lot of time watching for physical dangers, and may be fearful of supernatural ones. Politically, they have contradictory tendencies: they want protection from abuses of power through explicit legal rights (favoring a low CR), but protection from lawbreakers and outsiders through stringent law enforcement (favoring a high CR). Races with low Suspicion tend to be optimistic, personally brave, and trusting, and are comfortable with informal customs in place of laws; they make long-term agreements readily, but are vulnerable to being exploited by giving trust too readily.

Example: As noted on p. 31, the Automaton meta-trait implies Curiosity -3, Empathy -3, Imagination -2, Playfulness -2, and *possibly* enhanced Concentration. Thus, a society of robots would probably spend all its energy on practical tasks (Playfulness -2), and would neither invent new things, nor seek them out, nor take an interest in them (Curiosity -3; Imagination -2). If its members were programmed for specific tasks, though, they would work at them steadily and plan them far in advance (Concentration +3), which could result in taking prompt action once a threat was identified. Any departure from programmed action would result in explicit corrective feedback (Empathy -3).

However, just as individual characters can deviate from a racial template, so can cultures. Humans have vast cultural diversity, with hundreds or thousands of distinct cultural groups. Science fiction and fantasy sometimes treat nonhuman races as if each had a single, uniform culture, but cultural diversity within races is often more realistic – and can make a setting more interesting. To provide this, add a cultural template, as defined in ***GURPS Template Toolkit 1: Characters,*** to a racial template. If the culture's expected behavior goes against the race's typical behavior, add a trait to the cultural template that cancels the relevant racial trait, as described for *Modification* (p. 37). The GM can completely specify all of a world's cultural templates, give general descriptions without templates, or allow players to make up cultural backgrounds for their characters. In the first case, players can reasonably be allowed to adjust a cultural template – not all members of a culture conform to it perfectly!

Presentation

The GM decides how to present racial templates, but ***GURPS*** uses a standard format intended to facilitate template design and use. An example follows these notes; for others, see Appendix B.

Template Name: Style this as a title preceding everything else. The name of an *entire race* is likely to come up often in discussions, both in and out of character, so avoid anything needlessly difficult to pronounce or remember. Racial template names may be used either on their own, or together with one or more names for occupational templates; the simplest way to accommodate this is to make the racial template a noun, but use it as a modifier when necessary.

Racial Cost: Place this under the name, like a trait's point value in the ***Basic Set.*** It's essential to specify how many character points it costs to belong to a race!

Template Description: Put this *before* the stats to let players know what sort of "race" they're dealing with, what its most distinctive traits are, and what it looks like. This will help them understand what the stats are meant to represent, and decide whether the template fits their character concept.

Stats: List character traits in the standard order: *Attribute Modifiers, Secondary Characteristic Modifiers, Advantages, Perks, Disadvantages, Quirks, Racially Learned Skills, Racially Learned Spells,* and finally *Features* (including taboo traits). Include attribute and secondary characteristic modifiers only when different from zero. Attribute modifiers are relative to the human norm of 10; secondary characteristic modifiers are applied *after* figuring the secondary characteristic scores from the modified attributes (see *Attributes, Secondary Characteristics, and Talents,* p. 24). For example, in the Grace template (below), IQ 10, costing 0 points, would be modified by IQ-1 to IQ 9; this would give Will 9 and Per 9, but Per+2 would then give Per 11. Within the other sections, list traits in alphabetical order. Omit any section that contains no traits, even *Attribute* and *Secondary Characteristic Modifiers; Perks, Quirks,* and *Features* are sometimes absent, and *Racially Learned Skills* and *Spells* often are.

Footnotes: Some traits require explanation to be understood; e.g., an advantage may have a newly defined modifier, or a perk or quirk might be unique to the race and call for explanation. Put a mark such as * or † after the trait's name, repeat the mark beneath the stats block, and give the information.

Customization Notes: If the template can be modified in some way – e.g., a vehicle with a high-performance, armored, or combat-ready variant – describe the options here.

Grace

90 points

Graces are a parahuman race (*Homo gracilis*) created by genetic manipulation in around year 2100. Their developers tweaked the gene complexes involved in Williams syndrome for improved baseline IQ, while retaining high social intelligence, providing complementary traits, and eliminating most health defects (those remaining are represented as Unfit). Even without actively using skills or abilities, they have +1 to reactions from Attractive, +1 from Charisma, +2 from Voice, and often another +3 from Pitiable. As an unplanned bonus, they get an exotic ability: reprogramming others' minds by talking with them, with comparatively high reliability corresponding to their bonus from Voice.

Graces have light builds, with average ST 9; typical weight is 135 lbs. Typical height would normally be 5'6"; the feature Gracile 1 adds 5%, for an average of 5'9". Long, thin fingers aid manual dexterity. The overall appearance is "elfin" and androgynous, and has been adjusted for attractiveness.

The template was designed by selecting behavioral traits directly, rather than from a racial personality profile, but could be approximated as Chauvinism -3, Concentration -1, Egoism +2, Gregariousness +1, and Suspicion -1.

Attribute Modifiers: ST-1 [-10]; DX+1 [20]; IQ-1 [-20].
Secondary Characteristic Modifiers: Per+2 [10].
Advantages: Attractive (Androgynous) [4]; Charisma 1 [5]; Eidetic Memory (Aspected, Social interaction, -20%) [4]; Fearlessness 2 [4]; High Manual Dexterity 1 [5]; Language Talent [10]; Mind Control (Conditioning Only, -50%; Hearing-Based, -20%; Reliable +2, +10%) [20]; Pitiable [5]; Resistant to Influence Rolls (+3) [5]; Smooth Operator 3 [45]; Voice [10].
Perks: Honest Face [1]; Sanitized Metabolism [1].
Disadvantages: Post-Combat Shakes (12) [-5]; Selfish (12) [-5]; Unfit [-5]; Xenophilia (12) [-10].
Quirks: Cannot Float [-1]; Congenial [-1]; Distinctive Features (Huge eyes) [-1]; Distractible [-1].
Features: Gracile 1.

. . . a perfect typical man, embodying quantitatively all human attributes in absolute scale and proportion as a norm, and with an unimaginable common denominator by which such qualities would be translatable into number for points which could be added together.

– Isabel Paterson, ***The God of the Machine***

Appendix A
New Traits

Some options for racial templates in this supplement involve variations on existing advantages and disadvantages, or new perks and quirks. For convenience, these are collected here. For meta-traits, see *Meta-Traits* (pp. 8-11). For 0-point features, see *Features and Taboo Traits* (p. 12) and elsewhere throughout this work.

These planets were so large that no mobile organism could be bigger than a beetle, no flying organism bigger than an ant. In the intelligent swarms that fulfilled the part of men in these worlds, the microscopic brains of the insect-like units were specialized for microscopic functions within the group . . .

– Olaf Stapledon, ***Star Maker***

Advantages

Several existing advantages can take new forms or be modified by new special enhancements or limitations.

Affliction

see pp. B35-36

An additional irritating condition is available:

Itching: The target has -2 to DX for the duration of the itch. Scratching relieves the itch but prevents any other useful action (a Do Nothing maneuver in combat). +10%.

Compartmentalized Mind

see p. B43

Some points about Controls and Dedicated Controls need clarification:

- A robot vehicle (one with nonzero IQ) *can* have Controls, allowing an operator to direct its actions in special circumstances. Resolve conflicts between operator and vehicle with Quick Contests of vehicle operation skill vs. Will.
- If a machine with No Legs (Portable or Sessile) has a character sheet or racial template, its having an operator is treated as Dedicated Controls.

Flight

see p. B56

A new limitation applies to some flying entities:

Lighter Than Air, Passive: You have all the restrictions of regular Lighter Than Air *and* no propulsion system. You can ascend or descend at Move 1, and seek favorable winds by doing so on a successful IQ or Meteorology roll (one attempt per minute), but your horizontal Move comes entirely from the wind. -60%.

Injury Tolerance

see pp. B60-61

A number of enhancements to Injury Tolerance (Diffuse) apply to swarm races (those with Body of Swarm, p. 12):

Flying Swarm: Requires Body of Swarm. Your component bodies can fly, with air Move equal to twice your Basic Speed. +30%.

Humanoid Form: Requires Body of Swarm. You can assemble your component bodies into a roughly human shape. If you try to pass for a humanoid being, you effectively have Unnatural Features 5; if you have a relevant power Talent, you can use it to compensate for this. With GM approval, you can instead take on the semblance of any one different morphological meta-trait, such as Hexapod or (for machines) Ground Vehicle. +50%.

Infiltration: Your body is a fluid or, if you have Body of Swarm, a collection of tiny units. You can filter or flow through tiny holes, and ooze through narrow cracks and porous barriers, including ordinary clothing (in two seconds) or chinks in armor (in five seconds). This doesn't give you the ability to shapeshift or stretch. +40%.

Scatter: Requires Body of Swarm. You can disperse your constituent bodies over a half-mile radius by taking a Concentrate maneuver; add levels of Area Effect to increase this radius. Your outer edge travels at your best applicable Move. While you are dispersed, you are effectively insubstantial. Only area effect, cone, and explosion attacks can injure you, and their damage is generally reduced; multiply it by the square of (attack radius/your current radius). With a Ready maneuver, you can focus your senses on any point within your area, and your constituent bodies can communicate instantly and act cooperatively. +40% if you can't affect the material world while scattered; +120% if you can.

A new form of Injury Tolerance applies specifically to vehicles with onboard operators or crew:

No Windows: You have no openings in your structure that give your operator a direct line of sight to the exterior, but you still provide visibility through periscopes, virtual displays, or the like. Your operator cannot be directly targeted visually and is fully protected by vehicular armor. *5 points.*

Resistant

see pp. B80-81

The computer design option Hardened – which gives +3 to HT against electromagnetic pulses, microwaves, and power surges – can be interpreted as being Resistant to a Common attack. As such, it can have a version that gives +8, for advanced battle-hardened designs, and an Immunity that totally prevents surge effects. Immunity costs 15 points; Resistant (+8) and (+3) cost 7 and 5 points, respectively. Any character with Electrical can benefit from these traits, which have no effect on attacks that *drain* electrical energy.

Telecommunication

see p. B91

A new variety is applicable to computers, robots, and vehicles:

Cable Jack: You can send and receive information through a conductive or fiber-optic cable. This allows direct, unjammable communication with any other computer with a similar jack; wired remote control of a vehicle with Compartmentalized Mind (Controls); or plugging into an external device that provides longer-range telecommunication. Includes a cable up to 10 yards long. *5 points.*

Vibration Sense

see p. B96

Some animals and alien races have an ability that can be treated as a form of Vibration Sense:

Active Electroreception: This uses a completely different mechanism from standard Vibration Sense – sensing electric field distortions rather than air or water currents – but provides very similar capabilities. It functions only in water, and can only detect objects that are either insulators or conductors relative to water. Water currents don't hinder it, and it can't detect them. A successful Sense roll identifies an object's size, location, and speed and direction of movement. The roll is modified for the range to the target, per the *Size and Speed/Range Table* (p. B550); in addition, *add* the target's SM to the roll and *subtract* your own. Using this sense generates an electric current that can be detected. *10 points.*

New Advantages

Two new advantages are especially useful when designing races.

Good Grip

5 points/level

The converse of Bad Grip (p. B123). This can represent hardened, closely opposed gripping surfaces like a crab's claws or a set of pliers or forceps (typically one level), or a suction apparatus like an octopus' suckers (typically two levels). Each level gives +2 with tasks that require a firm grip (including climbing).

Signals

15 points

You have the ability to communicate in a physical medium other than sound. It typically originates in biological rather than technological processes, and it can't carry digital signals. Your range is short compared to Telecommunication, limited by the recipient's senses.

There are several versions, none of which can take the Vague limitation. "Vague Communication" is a 0-point feature that can accompany the *prerequisite* trait.

Blinker

Prerequisite: Illumination (***GURPS Power-Ups 2: Perks,*** p. 10).

Your communications take the form of series of light flashes, about as bright as a torch or flashlight. Receiving them requires vision or Detect (Light; Precise, +100%).

Chemical Messengers

Prerequisite: Discriminatory Smell (Emotion Sense, +50%).

Your communications involve release of a wide range of different molecules into the air or water. All living organisms emit vague signals, except those with Sanitized Metabolism (p. B101). However, the ability to *interpret* chemical signals is an aspect of Discriminatory Smell.

Color Changes

Prerequisite: Chameleon (Controllable, +20%).

Your communications involve changing the coloration of your skin in complex patterns. Receiving them requires vision. You can take the modifier Video (+40%), allowing you to produce high-resolution patterns that copy what you see in detail.

Under the Hood: Signals

The advantage Signals, in its various forms, represents the ability to "speak" in a medium other than sound. How much should this be worth?

The human ability to speak is a baseline ability that costs 0 points; the ability to make only animal noises is Cannot Speak, worth -15 points. Telesend costs 30 points, but Telesend (Vague, -50%) is worth just 15 points, and limits the user to general concepts and emotions. So 15 points seems a fair price for the difference between vague and non-vague communication.

On the other hand, while Telesend (Vague) costs 15 points, Mute is -25 points – 10 points less than Cannot Speak. And *any* person's or animal's emotional state can be detected by a race with Discriminatory Smell (Emotion Sense); it costs nothing to emit *vague* chemical signals. So rather than being defined as Signals with a limitation, other forms of vague, animal-level communication are each identified with whatever existing traits provide suitable capabilities.

Electrical Pulses

Prerequisite: Vibration Sense (Active Electroreception) (p. 44).

Your communications involve emitting modulated series of electrical discharges, usually at frequencies comparable to those of the human voice. Receiving them requires Vibration Sense (Active Electroreception).

Perks

Some newly defined perks are available as part of racial templates.

Accessory (Lock)

You have a mechanical or electronic lock that restricts access to your interior, controls, or vital systems, of normal difficulty to pick for your TL.

Pestilent

You're physically unclean, carrying infectious agents. If you wound a living creature with an unarmed attack, or contact an open wound or a mucous membrane, your victim must check for infection (p. B444) with the -3 for a "special infection."

Radiation Recovery

You don't heal any faster from radiation than the normal 10 rads/day, but you heal from *all* of the original dose. Regeneration (Heals Radiation or Radiation Only) automatically includes this perk – don't take both!

Sails

You have one or more sails that provide you with propulsion when the wind is blowing. This can be taken together with No Legs (Aquatic, Passive) (p. 46).

Disadvantages

A number of existing disadvantages can take new forms.

Bad Sight

see p. B123

A new variant can be used to represent the limited visual abilities of many animals (see *The Senses,* pp. 26-27):

Low Resolution: You have -4 to spot objects at any range, and -8 to resolve fine details in an object you have focused on. This is an inherent limitation of the number of retinal cells, and cannot be corrected with lenses. *-25 points*.

Increased Consumption

see p. B139

You can add a half-level of Increased Consumption to any number of full levels for another -5 points. This multiplies the number of meals for the preceding full level by 1.5.

Some creatures have Increased Consumption with a special limitation:

Cast-Iron Stomach: Any level of Increased Consumption bought with this limitation increases how often you must eat, but not the cost (in money, time spent foraging, or life support), because you can eat low-quality food and drink low-quality water; see *Reduced Consumption* (p. B80). For example, with Increased Consumption 1 (Cast-Iron Stomach), you must stop to eat six times a day, but that costs no more than someone without this trait spends on eating three times a day. Each level of Increased Consumption with this modifier gives you +1 to resist the effects of food-borne poisons or diseases; but anyone seeing you eat reacts to you at -3. -50%.

You may take only some of your levels of Increased Consumption with Cast-Iron Stomach; in that case, your cost is based on the levels that *aren't* modified. You can also take *more* "levels" of Cast-Iron Stomach than you have of Increased Consumption, up to four levels. If you do, apply Cast-Iron Stomach to *all* your levels of Increased Consumption, and also take as many levels of Reduced Consumption as you have left over.

Example: You have Increased Consumption 1, but three levels of Cast-Iron Stomach. This is bought as Increased Consumption 1 (Cast-Iron Stomach, -50%) [-5] together with Reduced Consumption 2 (Cast-Iron Stomach, -50%) [2], for a net -3 points. You need six meals a day, but the cost is the same as for *one* meal a day of clean food.

No Legs

see p. B145

Two new variants are available for racial design:

Aquatic, Passive: You have the normal restrictions for Aquatic, but in addition, you can't swim or actively propel yourself; your basic water Move is 0 and can't be bought up. You can be carried downstream or drift with the current, or you can be towed. If you have Sails (p. 45), you can be propelled by the wind. *-10 points plus any additional restrictions from Aquatic.*

Wheels, Passive: You have the normal restrictions for Tracked or Wheeled, but in addition, you can't actively propel yourself. You can roll downhill or be towed. *-30 points.*

Shapeshifting

see pp. B83-85

Shapeshifting is sometimes a disadvantage!

Disadvantageous Alternate Form

Variable

Under certain conditions, you change into a form that you don't control and that acts as your enemy. Point value depends on trigger condition rarity as defined for Weakness (p. B161): -5 points for Rare, -10 points for Occasional, -20 points for Common, or -30 points for Very Common.

The Alternate Form's point value usually doesn't matter. However, if it's greater than your primary form's value *and* there are ways to exploit it for the benefit of yourself of your companions, this disadvantage is offset by an advantage worth points equal to the difference in point value between forms, multiplied by this disadvantage's point cost read as a *positive* percentage: 5%, 10%, 20%, or 30%.

Social Stigma

see pp. B155-156

Undead beings that are *known* to have died have a distinctive Social Stigma:

Dead: You were once a member of a sapient race. Now your life has ended. Either you're visibly not living, or your death is on record and can be verified officially. You have no legal right to own property; your heirs can take possession of your worldly goods. If you attempt social interaction with the living, they react to you at -4; those who encounter you unexpectedly must make Fright Checks. *-20 points.*

Unnatural Features

see p. B22

A humanoid robot may have this trait, depending on certain details of appearance and construction defined on p. 28 of ***GURPS Ultra-Tech:***

Sculpted Body (the default) – an obviously mechanical body in humanoid shape, covered perhaps with metal or plastic – doesn't give Unnatural Features, because it would never be thought of as human in the first place.

Mannequin, looking like a well-made doll with little or no expression, gives Unnatural Features 2.

Realistic Flesh, including facial muscles capable of expression and finely made synthetic skin, gives Unnatural Features 1.

Living Flesh or being a bioshell (a living body controlled by an implanted computer) again doesn't give Unnatural Features – though close examination using Electronics Operation (Medical) or other suitable skills will reveal the robot's true nature.

Quirks

Some newly defined quirks are available as part of racial templates.

Affected by Rust

A quirk-level form of Fragile: If you get wet, your body surfaces oxidize. At the end of any day spent exposed to moisture, roll against HT+4 – or against HT under extreme conditions such as torrential rain. On a failure, your joints stiffen: -2 to DX and -1 to Basic Speed until they're oiled and moved back and forth. On a critical failure, or if your joints are currently stiffened and you fail *again*, you're paralyzed (p. B429) until oiled! If part of you is splashed or immersed, make an additional HT roll to avoid localized effects on that body part.

Cannot Jump

You're capable of ground movement, but not of propelling yourself off the ground. Automatically included in No Legs (Tracked or Wheeled).

SMITH & TINKER'S
Patent Double-Action, Extra-Responsive,
Thought-Creating, Perfect-Talking
MECHANICAL MAN
Fitted with our Special Clock-Work Attachment.
Thinks, Speaks, Acts, and Does Everything but Live.
– L. Frank Baum, ***Ozma of Oz***

Appendix B
Examples

These templates illustrate how to build and present several different kinds of "races."

Dayton-Wright DH-4 (Vehicle)

-79 points

An American version of the British De Havilland DH.4 biplane. Nearly 5,000 were manufactured during World War I; after the war, large numbers were sold for civilian use at bargain prices (with the weapons mounts removed!). A band of adventurers might plausibly have two or three. Vehicle statistics from ***GURPS High-Tech,*** p. 233 appear here for convenience.

The DH-4 has the Vehicle meta-trait (p. 9) and cannot operate without a human pilot.

The DH-4 is 30' long, with a 43' wingspan; its SM (which doesn't take wingspan into account) is +4. A scale factor of 5 (10 yards/2 yards) gives a weight estimate of 15,625 lbs.; since unloaded weight is actually 1.7 tons or 3,400 lbs., its density is 0.22, allowing it to float (until its body fills with water). ST and HP come from unloaded weight (4 × cube root of 3,400). HT reflects its relatively light construction. Planes of this era run on standard gasoline, which is a Common fuel. Its fuel tanks make it Flammable.

Basic Move (on the ground) is bought down from 5; air Move is bought down from 10. Enhanced Move 2.5 (Ground) gives ground speed 24, a little above its stall speed of 23. Enhanced Move 4 (Air) allows air speed 64, just above its actual top speed of 62. Its Flight (included in Fixed-Wing Aircraft) has Cannot Hover, requiring it to maintain at least air speed 16, raised to 23 for historical accuracy. With Basic Lift 720 lbs., Payload 11 lets it carry 792 lbs. (rounded to 0.4 ton), providing 40 cubic feet of internal space. Cruising speed of 1.6 mph × top speed is 99 mph, letting it cover 396 miles in 4 hours, close enough to the actual 420 miles to count as four-hour endurance (Increased Consumption 1).

Attribute Modifiers: ST+50 (No Fine Manipulators, -40%; Size, -40%) [100]; HT-1 [-10].

Secondary Characteristic Modifiers: SM +4; Basic Move-1 [-5]; Air Move-6 [-12].

Advantages: DR 3 (Can't Wear Armor, -40%) [9]; Enhanced Move 4 (Air Speed 62; Nuisance Effect, Propeller, -5%) [76]; Enhanced Move 2.5 (Ground Speed 24; Environmental, Unpaved Flat Surfaces, -40%) [30]; Injury Tolerance (No Neck) [5]; Machine [25]; Payload 11 [11].

Disadvantages: Fixed-Wing Aircraft [-78]; Fragile (Flammable) [-10]; Increased Consumption 1 [-10]; Restricted Diet (Gasoline) [-20]; Vehicle [-190].

Features: Tail Strut.*

* The DH-4 has only two wheels, which can be crippled by (HP/4) injury. A tail strut keeps its tail from dragging on the ground, but can be used safely only on a grassy field, not on a paved airstrip. Injury over (HP/3) cripples the strut, which can be targeted at -3.

Customization Notes

Some owners install two-way voice radios: Telecommunication (Radio). The military version of the DH-4 has two fixed weapon mounts controlled by the pilot (treat as Accessory perks) and two flexible mounts controlled by the observer (treat as Weapon Mounts and also buy Compartmentalized Mind (Dedicated Controls)); see ***GURPS High-Tech*** for details.

Decabrach (Alien)

100 points

An alien race adapted to an amphibious life in fresh water or humid air. Their racial features reflect their home world's environment. Their native air pressure counts as "very dense," but comes primarily from helium; its oxygen partial pressure can be treated as "dense."

Decabrachs are invertebrates, with a horizontal posture and five pairs of flexible arms that also function as legs. Average weight is 45 lbs., giving a weight multiplier of ×0.36. Exact calculations give ×0.71 HP, for an average of HP 7. With gravity of 1.4G, they have ×1.00 ST, for an average of ST 10, and ×0.51 length, for an average of 3.1' and SM -1. Basic Speed is ×1.18, for an average of 6.00; with longest dimension 1.03 yards, their Basic Move averages 4, reduced 10% for each leg they use as an arm. Other attributes and secondary characteristics are as for humans.

Decabrachs have very different senses from humans, lacking sight, and hearing only at subsonic frequencies. Their main ranged sense is electrical, letting them sense the shapes of nearby objects for several yards around them; they also use this for communication. Their arms have multiple suckers rich in nerve endings, providing a strong grip, a very precise sense of touch, and an added chemical sense. They have +16 to grapple (using all their arms) and +4 to climb.

DH-4 Vehicle Stats

TL	*Vehicle*	*ST/HP*	*Hnd/SR*	*HT*	*Move*	*LWt.*	*Load*	*SM*	*Occ.*	*DR*	*Range*	*Cost*	*Locations*	*Stall*
6	DH-4	60	0/3	9f	4/62	2.1	0.4	+4	2	3	420	$85,000	O2W2Wi	23

They cannot jump or kick, but can use hydraulic pressure to stretch their limbs for effective SM 0.

Decabrachs are carnivores, using their electrical and chemical senses to seek and stalk prey. Their behavioral profile includes Concentration +1 (patient hunting strategies), Empathy +2 (pursuit of intelligent prey), Gregariousness -1 (as mainly solitary hunters), Imagination +1 (flexible feeding strategies), and Suspicion -1 (as carnivores); they are *not* high in Playfulness. Their sociality is less spontaneous than in humans, growing out of the empathic ability to predict each other's goals as a conscious strategy of cooperation and trade.

Secondary Characteristic Modifiers: SM -1; HP-3 [-6]; Basic Speed+1.00 [20]; Basic Move-2 [-10].

Advantages: Amphibious [10]; Detect (Chemical Substances; Melee Attack, Reach C, -30%; Nuisance Effect, Must touch with suction cup for full sensitivity, -5%; Reflexive, +40%) [11]; Doesn't Breathe (Accessibility, Not in dry air, -10%; Oxygen Absorption, -25%) [13]; Extra Arms 8 (Extra-Flexible, +50%; Foot Manipulators, -30%) [96]; Extra-Flexible Foot Manipulators 2 [4]; Extra Legs (Ten Legs; Cannot Kick, -50%) [8]; Fearlessness 1 [2]; Good Grip 2 [10]; Sensitive [5]; Sensitive Touch [10]; Signals (Electrical Pulses) [15]; Stretching 1 [6]; Versatile [5]; Vibration Sense (Active Electroreception) [10].

Perks: Rinse [1]; Vibration Sense Usable in Humid Air [1].

Disadvantages: Blindness [-50]; Invertebrate [-20]; Mute [-25]; No Skull DR [-2]; Restricted Diet (Carnivorous) [-10].

Quirks: Attentive [-1]; Cannot Jump [-1]; Serious [-1]; Uncongenial [-1].

Features: Native Gravity 1.4G; Native Pressure 7 atm; Subsonic Hearing; Thermal Comfort Zone 85°F to 140°F.

Fly Demon (Embodied Spirit)

A composite entity formed by a demonic spirit possessing a swarm of flies.

Captain of Flies (Animus)

22 points

You are a malevolent spiritual entity in the service of the Lord of the Flies or another demon or god such as the Furies. Your master can grant you access to material hosts; or a sorcerer can call you to the material plane, if they know your true name; or you can transfer from one swarm to another. On your own, you have no access to or awareness of the material plane.

You're not very bright, but not an automaton – you can be controlled by your true name, but you can try to twist the orders you're given. You're guided more by immediate perception than by reasoned decisions, and easily distracted, but you *don't* lack curiosity. You have Empathy -2, Imagination -2, and Playfulness -2 (reflecting demonic malevolence and narrowness), along with Concentration -1 (opportunism).

Attribute Modifiers: IQ-2 [-40].

Secondary Characteristic Modifiers: Will+3 [15]; Per+3 [15].

Advantages: Doesn't Sleep [20]; Possession (Accessibility, Swarms of flies only, -40%; Spiritual, -20%) [40]; Unaging [15].

Disadvantages: Callous [-5]; Hidebound [-5]; No Sense of Humor [-10]; Odious Racial Habit (Filthy) [-10]; Reprogrammable [-10].

Quirks: Can Be Turned By True Faith [-1]; Distractible [-1]; Likes Carrion [-1].

Features: Can Be Exorcised.

Customization Notes

For a much more powerful captain of flies, replace all advantages with the Demon meta-trait, keeping the Accessibility limitation on Possession. This raises cost to 216 points. The result is an immaterial being that can perceive the material world and travel about it, looking for abattoirs and battlefields.

Host of Flies (Vessel)

123 points

A swarm of bluebottle flies (*Calliphora vomitoria*) or related species of carrion flies (the same statistics can be used for flies of other kinds). Individual flies average SM -13 and have effective ST 0. However, they swarm, drawn together by pheromonal signals, and can be possessed by malignant spirits that grant them meaningful IQ and Will. The traits listed here are purely physical, for a swarm used as a vessel; they don't reflect the mentality of flies.

The swarm as a whole is Diffuse, and can't lift or move objects of any size, so its ST is 0; however, its HP equal the Will of the animating spirit, which is the amount of injury needed to disperse it. It moves at the speed of its constituent bodies, and can scatter at that speed, becoming effectively insubstantial. On the ground, the flies crawl at a fraction of Move 1, but they can cling to walls and ceilings; they fly comparatively slowly and can often be outrun. Their bite can't penetrate human skin, but causes a distracting itch, and their wings make a loud hum, treated as Penetrating Voice.

Flies have 360° vision; they see at extremely low resolution, but the animating spirit can combine thousands of visual impressions into an image that's merely poorly resolved. They feed on corpses, excrement, and open wounds, which they can smell from a great distance, and contact with such material makes them carriers of infection.

Attribute Modifiers: ST-10 [-100].

Secondary Characteristic Modifiers: HP+11 [22]; Basic Move-5 [-25]; Air Move-6 [-12].

Advantages: 360° Vision [25]; Acute Taste and Smell 10 [20]; Affliction 1 (Itching, +10%; Melee Attack, Reach C, -30%) [8]; Clinging [20]; Injury Tolerance (Diffuse; Flying Swarm, +30%; Infiltration, +40%; Scatter, Can't affect the material world, +40%) [210]; Reduced Consumption 3 (Cast-Iron Stomach, -50%) [3].

Perks: Penetrating Voice [1]; Pestilent [1].

Disadvantages: Bad Sight (Low Resolution) [-25]; Bestial [-10]; Cannot Speak [-15].

Features: Body of Swarm; Taboo Trait (Fixed Basic Move); Taboo Trait (Fixed ST).

Prosthetic Body (Robot)

135 points

A machine body that replaces a human body as a housing for a living brain to create a total cyborg as discussed in ***GURPS Ultra-Tech***. The English name is a translation of the Japanese *gitai*. This template can be applied to an existing character as a permanent transformation (p. 40).

The body is human-shaped, for both functional and psychological reasons, but the basic model is visibly artificial, with a polymer outer coating. It weighs about the same as a human body, but because it's Unliving, its HP are doubled and its ST is boosted correspondingly. Support comes from a light metal internal skeleton. Most internal systems are electrical, powered by rechargeable batteries. Basic safety features include DR 3 overall armor, which provides a hard surface for striking blows (tougher than a human skull, so the brain compartment isn't specially armored); protective lenses over the eyes; and surge protection giving +3 to HT.

The brain still needs air, water, and food; the last two come from a nutrient solution, recharged weekly, treated as Dependency on a Common substance. Its physiological state is monitored by built-in systems that the user or a medic can access. The brain has no pain receptors; "pain" represents disrupted mechanical functions.

The brain controls the body via a computer interface, which also provides basic computer functions and can interface with external computer networks via a cable jack. The control system allows slightly faster reactions.

Attribute Modifiers: ST+10 [100].
Secondary Characteristic Modifiers: Basic Speed+1.00 [20].
Advantages: Cable Jack [5]; DR 3 [15]; High Pain Threshold [10]; Machine [25]; Nictitating Membrane 1 [1]; Resistant to Power Surges (+3) [5].
Perks: Accessory (Biomonitor) [1]; Accessory (Computer) [1]; Striking Surface [1].
Disadvantages: Dependency (Nutrient Solution; Common; Weekly) [-20]; Electrical [-20]; No Sense of Smell/Taste [-5]; No Skull DR [-2]; Unnatural Features 2 (Mannequin) [-2].
Features: Light Metal Structure; Reawakened; Subject to Aging (Brain Only).

Customization Notes

This design is for an average human-sized body. To have a larger or smaller body (perhaps based on your original), double your original ST and pay for the difference from standard racial ST.

A customized body can have a coating of realistic flesh, giving it Unnatural Features 1 instead of 2, and can be artistically shaped for attractiveness, possibly with Off-the-Shelf Looks. It's also possible to select an obviously mechanical sculpted body, eliminating Unnatural Features entirely. Some total cyborgs add Accessory perks. At TL10, a living flesh exterior is an option (removes Unusual Features).

As an added safety feature, the light metal skeleton can be changed to polymer, for +5 DR vs. electrical attacks. As well, Resistant to Power Surges can be raised to +8. Tech level 11 offers diamondoid structure, giving +10 DR vs. electrical attacks and allowing general DR to be raised to 6.

Raven (Animal)

-45 points

A large, omnivorous, exceptionally intelligent bird (*Corvus corax*), likely to be chosen as a companion by a mage or even a god (see *Customization Notes*).

Ravens have Avian morphology, with two wings and two feet that can be used as manipulators. They're moderately large but lightly built birds, averaging 24" and 3 lbs. or slightly over, which gives them HP 3 and ST 3. As flying creatures, they enjoy high DX and Basic Speed. They typically have IQ 5 – comparable to monkeys – and aren't easily tricked or intimidated. Their small size gives them ground Move 2, but they have air Move 12 and one level of Enhanced Move, letting them fly at 24 mph and reach top speed 48 mph.

Because of their small size, ravens have Increased Consumption, eating nine meals a day. However, as omnivorous carrion eaters, they can be less selective about what they eat; their last half-level of Increased Consumption has the Cast-Iron Stomach limitation. It costs them no more effort to find food than it normally would to find six meals a day. Each meal is about 0.03 times the size of a human meal, in proportion to their body weight.

Ravens can live up to 69 years, if not more – comparable to humans – but are reproductively mature at 3 years, treated as Early Maturation 2.

A behavioral profile for ravens includes Concentration -1 (opportunistic feeders), Curiosity +1 (omnivores), Imagination +1 (flexible feeding strategies), and Playfulness +1 (species IQ 5). Despite their small size, their ability to fly away protects them from many dangers, so their Suspicion is 0.

Ravens make up to 30 different sounds, including a croak that can be heard more than a mile away, and can imitate bird calls and even human speech. Most of their behavior is learned rather than instinctive; they normally have points in Survival and may have Aerobatics, Brawling, Filch, or Mimicry, but these aren't part of the racial template. Ravens can learn Area Knowledge based on Per rather than IQ, but only for areas they've physically explored (on the scale of a neighborhood, village, or town).

He sent forth a raven, which went forth to and fro.

– Genesis 8:8

Attribute Modifiers: ST-7 [-70]; DX+3 [60]; IQ-5 [-100]; HT+1 [10].
Secondary Characteristic Modifiers: SM -3; Will+6 [30]; Per+7 [35]; Basic Move-4 [-20].
Advantages: Avian [24]; DR 1 (Flexible, -20%) [4]; Enhanced Move 1 (Air Speed 24) [20]; Nictitating Membrane 1 [1]; Sharp Beak [1]; Temperature Tolerance 1 (Colder) [1].
Perks: Attribute Substitution (Area Knowledge based on Per) [1]; Attribute Substitution (Mimicry based on Per) [1]; Feathers [1]; Penetrating Voice [1].
Disadvantages: Bestial [-10]; Cannot Speak [-15]; Curious (12) [-5]; Increased Consumption 1 [-10]; Increased Consumption 0.5 (Cast-Iron Stomach, -50%) [-2].
Quirks: Distractible [-1]; Imaginative [-1]; Likes Shiny Things [-1].
Features: Early Maturation 2; Taboo Trait (Fixed IQ).

Customization Notes

For a raven familiar, buy off Taboo Trait (Fixed IQ) and Bestial. This allows it to have IQ 6 or higher. It may also replace Cannot Speak with Disturbing Voice, or acquire Mindlink. Adding skills, or (with GM approval) buying Magery and a spell or two, will raise it to a positive character point total suited to an Ally.

Index

Specific meta-traits are listed in their own section on p. 52.

Enter FERDINAND; and ARIEL, invisible, playing and singing.

– William Shakespeare, ***The Tempest***

Interviewer: HAL, despite your enormous intellect, are you ever frustrated by your dependence on people to carry out your actions?

HAL: Not in the slightest bit. I enjoy working with people.

– 2001: A Space Odyssey

They themselves do not see the world as we do, but our shapes cast shadows in their minds, which only the noon sun destroys; and in the dark they perceive many signs and forms that are hidden from us: then they are most to be feared. And at all times they smell the blood of living things, desiring and hating it.

– J.R.R. Tolkien, ***The Lord of the Rings***

Meta-Traits